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ABSTRACT

This four-chapter survey of research on the incentives for "knowledge utilization"--defined as the adoption and use of new information, products, and practices in education--focuses on incentives inside and outside of schools and on the need, in studying incentives, to take educators' perspectives, sensibilities, and aspirations into account. The first chapter reviews research on planned educational change and general organizational and job incentives as background for a proposed taxonomy of incentives and disincentives, their conditions, and educators' related personal orientations. Chapter two examines research on incentives that are external to the school environment, discussing research and development systems, money, power, consultants, resource agencies, local markets and political relationships, and community variation. The third chapter reviews internal incentives, including among others problem-solving needs, role factors, leadership, autonomy, and interpersonal relationships. In the final chapter the author discusses the social structural context of schools' local incentive systems. A list of needed research in knowledge utilization and incentives precedes the survey. (RW)

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Incentives and Disincentives for Knowledge Utilization in Public Education -- A Synthesis of Research

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December, 1979

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This study was conducted for the Research and Educational Practices Program, National Institute of Education, Washington, D.C.

The contributions of personal efforts which constitute the energies of organizations are yielded by individuals because of incentives. . .Inadequate incentives mean dissolution, or changes of organization purpose, or failure of cooperation. Hence, in all sorts of organizations the affording of adequate incentives becomes the most definitely emphasized task in their existence.

Chester I. Barnard, The Functions of the Executive, 1938

While education does relatively little by way of experimenting with incentives as a way to bring about change and improvement, their use is critical to the development of a successful dissemination system.

Interstate Project on Dissemination, 1976

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A Synopsis of Needed Research

based on

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1. The rewards and motivations for engagement in different phases of knowledge utilization (KU), such as adoption, mobilization, adaptation, implementation, and continuation, seem to vary. What are the dominant incentives/disincentives for different actors and status groups at various stages in the career of a change effort? (2-3, 70-72)*

2. What are the main managerial dilemmas faced by change agents that reflect conflicting incentives? What are the consequences of an undue emphasis on certain incentives that serve as one horn of an "incentive dilemma", e.g., local ownership vs reliance on external expertise? (6)

3. What are the latent and manifest predispositions of school personnel that foster a favorable response to putative rewards for KU? (10)

4. What is the variety and content of "ordinary knowledge" held by school personnel about teaching and learning or administration (including locally developed expertise), and what influence does such knowledge have on the acceptance and assimilation of external, formal knowledge? (12-13)

5. How can the molecular approach of an incentive paradigm be used to build or guide KU "strategies"? (41-45)

6. What role do attributes of knowledge (information, innovations, and model change processes) play as incentives/disincentives for utilization in education? (50-83)

   a. What are the effects of knowledge attributes on different stages or activities of a KU effort? (70-71)

   b. What is the meaning of "relevance" to school personnel? (55-56) How diffuse/concrete is the "structure of relevance" of educators, how are these structures shaped, and what consequences do they have for problem-solving and enlightenment? (55-56, 160-161)

   c. What are the different dimensions of "complexity," and what are the KU consequences of each? (59-61)

   d. How does one measure and observe the effects of "sequential divisibility," and how can the positive effects be translated into new designs for practice implementation? (59)

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* Numbers in parentheses refer to pages in the monograph devoted to the topic.

e. What are the unintended consequences of different attributes of innovations, including side-effects (positive and negative) and reverse effects? (62-66) [This issue is sometimes referred to as "compatibility" of innovations.] What changes in evaluation design are needed to deal with this important topic? (62-66)

f. How are innovation attributes perceived by school personnel, especially with regard to gestalts, interaction effects, and salience of certain properties? (67-68)

g. Do operational and consummatory incentives have different motivational strength; and what are the effects in a particular KU effort of imbalances between them? (69-70)

h. How do innovations change overtime, both subjectively and objectively? (70-71)

7. What are the negative effects of the evaluation process on KU projects, and how can they be controlled? (88-89)

8. What is the emerging distribution of power over curricular and other KU decisions among federal, state, and local agencies, between educators and non-educators, and between teachers and administrators? (96-99)

9. What is the role and impact of higher education in the delivery of KU services to local settings? Why does there appear to be so little involvement of higher education personnel in on-site KU efforts? What are the incentives/disincentives for using academic expertise? What role does teacher training play in KU activities and attitudes of local school personnel? What university-school models are most effective in fostering KU? (100-104)

10. What is the impact of teachers' centers on local KU; what features of different types of centers are most effective and why? What adaptations have been made to the American scene in general and to local situations in particular in the British model? (111-112)

11. What are the types, structures, functions, problems, and effects of intermediate education agencies with regard to local KU? What historical changes have occurred, and what current trends are discernible? What models seem to work best? (113)

12. What is the nature and structure of inter-school or inter-district networks with regard to KU influence, both formally and informally? What formal models are most effective in fostering exchange? (113-114)

13. What are the features of successful demonstration projects? What are the KU effects on the host site? (116-117)

14. What is the role of the local community in providing incentives/disincentives for KU?

    a. What types of participation and interactions are most effective in improving school practices? How can destructive relationships be avoided? (137-138)

    b. What are the main types of insulative mechanisms used by local educational agencies, and what consequences do they have? (129-134)

    c. What is the affect of parental involvement of various kinds on student learning, attitudes, behavior, etc.? (130fn)

    d. To what extent are institutional and job security, legitimation of existing practices, and political advancement influential in the adoption and support of new practices by top administrators? (135-136)

    e. What are the features of a community that influence support for or resistance to various forms of KU? (138-144)

    f. What is the correlation between data on availability of resources locally (or regionally) and data on actual use? (143-144)

15. Under what conditions is problem-solving an incentive for KU among different status-groups, and how frequently does it occur as a motivation for initiation of a change effort? (147-150)

16. What are the constraints and opportunities posed for KU by the generic properties of educational systems? (Chapter 3, especially 152-156)

17. What are the implications of the need for "role efficiency" for the design, planning, and implementation of KU efforts? (156-159)

18. How does the enlightenment function of KU contribute to practice? Is there a desirable sequence of the three sub-functions of enlightenment — the inducement of an informed, cosmopolitan climate of opinion; the infusion of new concepts that underlie particular change efforts; and the provision of options and specific bits of advice, products, etc. — for genuine change to occur? Does enlightenment contribute to non-instrumental aspects of roles, such as pride of craft, prestige, and morale? How is knowledge from various sources sifted, integrated, and assimilated into the frames of reference of personnel? What group processes can be designed to stimulate and direct the enlightenment function locally? What are the barriers and disincentives to enlightenment?

19. What is the exact nature of the influence that local administrators exert on KU efforts, e.g., instrumental support, symbolic leadership, liberation of professional motivation, power-coercion, and selective recruitment? (172-173) How does the total structure of influence in a district affect KU? (173) What are the determinants of an acquiescent tendency on the part of teachers? (175-176) What are the sources of KU behavior and attitudes on the part of administrators? (177-181)

20. Under what conditions do students offer "psychic rewards" to teachers, and how is this factor related to KU? (182-184)

21. What are the determinants and effects (direct and indirect) on KU of relationships with peers in the local settings? (184-188) Under what conditions do internal advocates emerge and what is their success in fostering KU? (189-190) How can opinion leaders be used as leverages for KU? (190)

22. To what extent do school personnel participate in an "occupational community" and under what circumstances does this contribute to KU? How can stronger occupational communities be created? (17, 191-193)

23. Under what conditions does task/role autonomy of various kinds foster or impede KU (193-198)? How can the inherent conflict between the need for ownership and the need to rely on external expertise be resolved in behalf of effective KU? (193-198)

24. What is the role of career advancement as an incentive for participation in KU? What are the consequences, especially when the career-oriented advocate leaves the school or project? (199-201)

25. To what extent is legitimation of current or new practices a motive for KU, and how is it accurately measured? (201-203)

26. What are the most significant dimensions for identifying the "incentive climate" of a local educational setting? (206-215) What are the "risk profiles" of various types of educational personnel in different incentive climates? (208)

27. What determines the distribution of actual, perceived, and valued rewards in schools, and to what extent does "pluralistic ignorance" impede KU initiatives? (208-210) What are the consequences for KU of a more vertical distribution of rewards than prevails in American education? (209-210)

28. How does the scarcity of various rewards affect KU efforts, especially when such efforts threaten to alter the existing distribution? How can design efforts take this factor into account? (211-212)

29. What are the principal orientational types of school personnel with respect to KU behavior? (212-215)

INTRODUCTION

The purpose of this essay is twofold: to suggest a paradigm for studying knowledge utilization (KU) that obliges us to take fully into account the perspectives, sensibilities, and aspirations of school personnel; and to explore the utility of the paradigm by applying it to a broad spectrum of research on KU in education. The failure of social engineering approaches that have stemmed from the preconceptions of experts who were unwilling or unable to identify with educational personnel, or at least to consider seriously their everyday frames of reference, has made a more phenomenological approach mandatory. This does not mean, however, that perdurable structures and functional needs of social systems can be ignored, for incentives and disincentives for behavior arise from and reinforce these structures and needs. Thus, while my approach is by no means astructural or ethnomethodological, it does emphasize the subjective meanings to educational personnel of KU efforts. And it seems to me that the most fruitful way of probing these meanings is to focus on the perceived rewards and costs of social action.

It is true that the literature on educational change abounds in appeals to "incentives for change" and the importance of understanding "incentive systems." But these admonitions are seldom accompanied by an effort to identify types of incentives, their sources, the conditions under which they operate, the way they should be combined to enhance motivation, and so forth. On those rare occasions when a particular inducement is fully recognized, there is a tendency to raise it to a status of omnipotence that denies the existence of a host of other inducements. Nor is reference made to incentives that work at cross-purposes, or to the unanticipated consequences of rewards that

don't turn out to be incentives at all. Indeed, it appears to be taken for granted that everyone knows what an incentive *is*. Accordingly, I have been able to find only a single definition, one which is inadequate for reasons to be presented. In light of this cavalier treatment of the subject, it seems likely that references to the significance of incentives for KU have been more in the nature of rhetorical gestures than conceptual guideposts.

Recent trends in the study of planned educational change have made a systematic understanding of incentives for KU an urgent task. They have also made it possible to approach the task with much greater confidence than in the past owing to the results of a number of major research studies. Chapter 1, "Towards an Incentive Paradigm," therefore begins with a review of these trends. Then, after offering a brief clarification of some key terms, I review some of the organizational literature on job satisfactions and incentives, and attempt to forge a taxonomy that might serve us better than the many strategies and models that one encounters in the educational literature on change. Finally, I challenge the notion that schools are the sole source of *disincentives* for KU, while acknowledging the predominance of "ordinary knowledge" in the frames of reference of educational personnel.

Chapter 2, "External Sources of Incentives and Disincentives for KU," pulls together research that bears on the introduction of incentives and disincentives by the external environment of schools. It thus covers research on attributes of knowledge (information, practices and products, and model KU processes), money, coercive power, consultants and resource linkers, and non-academic agencies such as teachers' centers, retrieval agencies, and other schools. We then move closer to the

school by focussing on the local context and its consequences for KU. Both the generic relationships and the more variable relationships between school and community are examined, again with reference to empirical studies.

Chapter 3, "Internal Sources of Incentives and Disincentives for KU," moves us inside the organizational and occupational structures of education. There I examine the evidence for problem-solving and enlightenment as key incentives for KU, as well as covering a number of other performance and non-performance related inducements.

The final chapter focusses on local social structures viewed from the perspective of an incentive paradigm and closes with some speculations on the dynamics of these structures. It thus moves us from an individualistic level to a more contextual perspective on the rewards and penalties of KU in different settings.

Throughout I have given special attention to gaps in our knowledge so that research may be guided in what I regard as promising directions. Nor have I hesitated to point out and criticize some undue research emphases, conceptual ambiguities, faulty interpretations, and proposed remedies based on limited or insubstantial evidence. The chief aim, however, is to explore the utility of a new, or rather <u>emerging</u>, perspective on educational KU rather than to set forth an agenda for specific research studies.

CHAPTER 1

Toward an Incentive Paradigm

The perspective on KU proposed here is not wholly novel since fragments can be found scattered throughout the literature, and especially the more recent literature. In fact, several distinct trends in the past few years have led us inexorably toward an incentive paradigm.

Recent Trends that Suggest the Need for a New Perspective

First, we have witnessed a growing appreciation of the non-task oriented, or "extrinsic" rewards, that come into play in the process of innovation. In particular, recognition of an "opportunistic" motive for adoption of federal projects and demonstration of its negative influence on implementation (Berman and McLaughlin, 1974) has focussed attention on a fact that had been stubbornly ignored by educational policy makers: a strong tendency for the target system to exploit the resources of an intervention for non-project purposes. The notion of opportunism as a motive for sheer adoption has been put forward many times in the past, of course, but it had failed to ignite much interest until Rand's documentation of its critical effects. (For example, those who have noted the "vulnerability" of schools to local and national contexts have long pointed out that innovations are often adopted for reasons of faddism and institutional security.) In essence, then, the re-discovery of opportunism highlights a realm of motivations that is not governed by concern for educational needs, efficiency of meeting these needs, or the effectiveness of a particular change effort — which are the paramount concerns of rational, problem-solving models. Further, it seems likely that opportunism can be detected at <u>any</u> stage of the adoption-implementation-institutionalization cycle; and that it is by no means

restricted to a response to federal funding or to public demands for an appearance of up-to-dateness.

A second development that has sensitized us to the ubiquitous role of incentives has been growing recognition of the importance of understanding implementation as distinct from the adoption phase of innovation (Giacquinta, 1973; Fullan and Pomfret, 1975). This shift in emphasis has prompted the realization that different rewards accompany different stages of the change process. Thus, as Pincus (1974:1.3) notes: "...incentives to adopt and incentives to implement are largely different from each other. Innovation and implementation work through different agents in the institutional setting. The federal or state agencies propose; school superintendents or principals dispose; the teachers and students transform." While Pincus attributes this shift in incentives to a shift in role-players, it is conceivable that incentives are inherently different in each of these phases, regardless of the role-players involved. Adoption of an innovation, for example, is clearly more publicity-getting than the long drawn-out, obscure, and often messy business of implementation. While the enhancement of an individual's or school's image might be an important pay-off of adoption, it is possible that problem-solving, participation in decision-making, or increased power within the school are more likely to be the rewards of implementation, regardless of which status-group is involved. In short, adoption and implementation promise different kinds of rewards. And they also promise different kinds of penalties. Indeed, the penalties of

flaunting the adoption of a new program or the capture of a federal grant are few compared with those of implementation. It costs little to adopt, it costs a great deal to implement — a simple point that might go far to explain the well-known disjuncture between adoption and implementation. Further, the formulation of a Concerns-Based Adoption Model (Hall, 1974) has drawn attention to the succession of concerns exemplified by school personnel as they proceed from awareness (at the non-use stage) to refocussing (at the renewal stage).

These developments have alerted us to the possibility that the ratio of incentives to disincentives must be continuously heeded in the study of long-term change, and related to different phases and status-groups overtime. Thus, certain incentives and disincentives are not only inherent in the educational system, but may wax and wane depending upon the stage of innovation. In short, we are beginning to recognise that incentive systems are dynamic.

A third trend has been increasing recognition of the failure of particular incentives (some of which have been ostensibly derived from social research) to yield the expected salutary results, and of the success of certain presumed disincentives in motivating compliance. The idea that participation in decision-making will provide the requisite sense of ownership and personal recognition to engage in implementation has yielded mixed results, for example. Conversely, we have learned that under certain conditions the sheer threat of sanctions may effect change, reminding us of the role of "negative incentives." But more important, such qualifications as these have alerted us to

the variability of local conditions, and to the futility of advocating a particular strategy of inducement regardless of local incentive structures. Consequently, one feels compelled to reexamine incentives from a contingency perspective, a view that emphasizes the influence of highly variable conditions, including orientations or predispositions toward different kinds of rewards. This renewed sensitivity to local factors has been reinforced by the recurrent observation that implementation entails a process of mutual adaptation between innovation and setting (Corwin, 1973:358, 363; Berman and McLaughlin, 1974, 1978), an observation that also raises the question of the incentives for engaging in such adaptations.

A fourth trend, which likewise reflects the importance of highly variable local circumstances, is mounting evidence that school personnel do not turn to formal, external sources of knowledge. As Hood (1979) has summarized this familiar observation: "Generally, the local, easily accessible, and typically personal sources are used in preference to more distant, inaccessible or formal sources." This tendency is commonly attributed either to sheer convenience of local resources or to ignorance of external resources. Equally important, however, may be the function of reaffirming social bonds within the local work group, and in particular the norms of autonomy and self-sufficiency. Thus, even when offered exogenous expertise in the planning and implementation of new, innovative schools, school personnel still tend to prefer local sources of information and assistance (Miles, et al, 1978: Part IV, 15-17).* It is also probable that referral of

* Evidence from Abt's evaluation of the RDU project, which entails the problem-solving model with linkage to external resources, strongly confirms this conclusion (forthcoming).

a professional problem to an external agency is an admission of failure to non-practicing experts, who invariably occupy higher status in the profession. As Zaltman, Duncan, and Holbek (1973: 87) note: "The higher the status of the potential donor organization relative to the recipient organization, the less likely information will flow between them. The rationale behind this is that seeking information is an admission of inferiority." In short, keeping it within the family might be a means of status-protection, an incentive for local KU that one might consider critical for an occupation that enjoys only a tenuous claim to professionalism.

A fifth development in the study of innovation has been greater attention to the conflicting requirements of well managed change, or the "choice situations" faced by managers, as March and Olsen (1976) call them. (In the words of the philosopher Sidney Hook, 1974:13, this pervasive phenomenon imbues pragmatism with a "tragic sense of life.") Thus, Miles (1978) has noted several managerial dilemmas that must be resolved as a change effort proceeds. These dilemmas include "whether to retain original planning goals or revise them; whether to stay in active contact with the environment or withdraw from it; whether to seek expert knowledge or rely on one's own resources; whether to seek feedback on P/I [planning-implementation] efforts or proceed intuitively; whether to constrain or give more autonomy to planners and implementers; [and] whether to routinize methods and procedures in the new school or leave things open and flexible." Miles describes these dilemmas as being

"pervasive and acute." Since each horn of each of these dilemmas reflects a different set of inducements, we are put on notice that incentives for KU may conflict with one another. For example, the incentives of group belonging and self-sufficiency promote self-reliance, which is important for morale and commitment in the process of implementation; but self-reliance may conflict with the performance rewards of using expertise. (It appears from this example, moreover, that what might be called "operational incentives" that arise from the process of implementation might be at odds with "consummatory incentives," such as effective problem-solving, which reminds us of the familiar process of goal displacement.) Finally, it is possible that the presence of these dilemmas accounts for many unanticipated consequences of change programs as one or the other horn of a dilemma receives undue emphasis.

This last point brings us to a sixth trend that is somewhat weaker than those already noted, but discernible nonetheless, namely, growing awareness of the unanticipated negative and positive side-effects, and even reverse effects, of planned change efforts. On the negative side, Rosenblum and Louis (1978:43), for example, have noted that "conflict over the innovation may make the cure worse than the disease," and that "the system must also decide if the cost of continuing a change is worth the benefits it yields." Looking back upon the well known negative spillovers of many Great Society programs, it would be surprising indeed if education were found to be immune to similar tendencies. Further, it appears that these troublesome effects may stem from well-meaning participants outside of the

schools (the federal government, R&D agencies, consultants) as well as from internal conditions. Thus, it is possible that the government's rigorous endorsement of innovative programs raises expectations too high, leading to local frustration and eventual withdrawal. Or "multiple and competing models" may result in "a dissipation of effort and blurred. . .division of labor," as occurred with the Teacher Corps (Corwin, 1973:364). In short, the manner in which interventions are introduced and monitored by external agents may contain elements that are self-defeating, elements that comprise disincentives for local KU.

Finally, there is an emerging body of research on the types of rewards that are endorsed by teachers in general and their affect on KU behavior in particular. For example, one could cite Lortie's (1975) research on the "psychic" rewards of teaching. Of a more quantitative cast are the studies by Spuck (1974) and Stephens (1974). Spuck found that the perception of "intrinsic" rewards by high school staff was related to the school's ease of recruitment, low absenteeism, and retention. In contrast, the perception of "extrinsic" rewards was not related to any of these measures of staff commitment to the organization. Stephens reports that teachers in innovative schools are more likely than teachers in traditional schools to perceive that quality of work and creativity

are rewarded, while the reverse is true of perceptions of seniority and good relations with the administration as rewards. Even more important, perhaps, Stephens found that performance rewards were endorsed much more often, and virtually to the same extent, in both kinds of setting. Such findings as these lend strong support to the idea that teachers are not simply endowed with a "civil service mentality," as some observers put it (e.g., Derr, 1976), but that many are perforce located in settings that do not provide for organizational commitment in general and for KU in particular.

Here, then, are seven developments or emergent themes in the study of educational KU that invite a fresh assessment of incentives and disincentives: recognition of extrinsic motivations, emphasis on different inducements for implementation and for adoption, recognition of local conditions and perspectives on incentives that shape change efforts, awareness of persistent reliance on internal sources of information despite the availability of exogenous expertise, acknowledgement of managerial dilemmas that point to conflicting incentives, sensitivity to the unanticipated consequences of planned change, and demonstration of the importance to teachers of "intrinsic" incentives.

Working Definitions: "Incentives/Disincentives" and "Knowledge"

If we are to move beyond the undisciplined state of thinking about incentives for KU, we must formulate a conceptual framework that will permit us to identify and sort out the many types of incentives found in education and its context. Several dimensions of a conceptual framework have been alluded to in the previous discussion

of trends, while others need to be introduced. But first, it should be made clear that the terms "incentives" and "disincentives" are here conceived quite broadly as any prospective or present source of gratification or deprivation, respectively. Thus, they include such rewards and penalties as money, professional esteem, job security, performance failure, work overload, the solution of a felt problem, and the negative reactions of the community. Positive and negative reinforcers are near synonyms, but the behavioristic connotations of these terms, evoking as they do images of white mice, Pavlovian dogs, and Skinnerian lumps of clay, render them undesirable for our purposes. In particular, the notion of incentives implies not only external stimuli, but a certain internal susceptibility or predisposition to notice, value, or embrace a particular stimulus. Whether one values money, power, freedom, or prestige, for instance, depends upon one's predisposition (which in turn is determined by social values and relationships). Thus, it is inadequate to define an incentive simply as a "gratification," as Wilson (1966) does, for this obscures the role of predispositions as well as the existence of external sources of gratification. Both components are a necessary part of the concept of incentives.

As commonsensical as this idea appears, it is often overlooked in the manipulation of rewards. Many school personnel, for example, are simply not favorably disposed to the prospect of rational problem-solving, quality of new practices, participation in collective decision-making, accessibility of information resources, pay for

special training, etc.; and yet, such putative inducements are constantly offered as "incentives" to all and sundry.

This is not to say that predispositions are eternally fixed. But altering them might well require intensive resocialization, a possibility that is conveniently ignored by advocates of change. As Giaquinta (1973:193) points out, "An examination of the changes in school personnel required by many of the contemporary educational programs, juxtaposed with the descriptions of the retraining workshops, makes clear that the desired basic change in persons will not occur as a result of the workshops." And he cites several studies that demonstrate the consequences of a failure to re-socialize project participants.* It should be borne in mind, however, that the absence of a predisposition might be more apparent than real if it is due to lack of reinforcement in one's current social setting. In other words, predispositions might simply be muted or repressed. While a professional commitment is often instilled in the teacher training phase, for example, certain constraints and disincentives in the local educational setting tend to suppress this commitment. Thus, we find a transition from "humanism" to "custodialism" as one passes from being a new teacher to being an experienced one (Hoy, 1968). Clearly, certain rewards if properly managed might be effective in reviving or reinforcing a predisposition that has declined in salience.

In sum, the notion of incentives implies both an objective stimulus and a subjective predisposition to value that stimulus. The

* Educational change agents have apparently overlooked a premise of organizational theory stated by Barnard many years ago (1938:141): "An organization can secure the efforts necessary to its existence, then, either by the objective inducements it provides or by changing states of mind. It seems to me improbable that any organization can exist as a practical matter which does not employ both methods in combination."

array of incentives, their distribution, and their methods of allocation, together with particular motivational modes that determine their value loading, will be called the incentive system of a school. These systems range from being highly coherent and resistant to change to being quite disorderly and dynamic, even internally contradictory. But before examining these systems as wholes, it is necessary to clarify our use of the term "knowledge," and then to identify certain formal and substantive features of discreet incentives for knowledge utilization. (For a detailed effort to define what we mean by "knowledge" in the present systhesis, see Appendix A. Here I wish to emphasize only certain broad aspects of that definition.)

First, it should be emphasized that we are not interested in knowledge only as new practice or idea, but also as new process of adoption/implementation. Because of the array of "strategies and tactics" for implementation that have been put forth in recent years, the complexity of these modes of implementation, and the tendency for sponsors of new programs to overlook the importance of institutionalizing these processes (as suggested by Fullan and Pomfret, 1975; Herriot and Gross, 1979), it is necessary to realize that process models are also innovations that require adoption and implementation. Accordingly, certain students of innovation have become concerned about the diffusability of particular strategies (e.g., Miles, 1976). A second point is that "knowledge utilization" applies to the adoption and implementation of new products or practices as well as to the use of information to supplement practice

(such as one acquires from information retrieval agencies) for the simple reason that these two types of knowledge utilization are different mainly in scale. They may be identified, respectively, as macro- and micro-knowledge utilization, or more simply as products and programs, on the one hand, and information, on the other.

Third, the term covers "craft" knowledge generated by teachers and school administrators or specialists as well as knowledge generated by systematic inquiry and development conducted by experts. Typically, R&D personnel in education have limited themselves to the latter definition, while persons working in the dissemination field have pressed for the more inclusive meaning. This divergence of perspective is no doubt due to different reference groups: the dissemination specialist is more oriented to local practitioners, while the R&D expert is primarily oriented to his scholarly and developmental peers. *

Now let us turn to the identification of specific kinds of incentives.

Types of Incentives

Despite the habit among educational change theorists of referring to the importance of "incentives for change" without either defining or illustrating the concept, a few efforts have been made to identify types of incentives. I will discuss some organizational incentives that have been mentioned in the literature, and then turn to incentives for KU in particular.

It is important to comprehend the full range of incentives that

* This discussion of the kinds of knowledge that are of primary concern to us here does not mean that alternative forms of knowledge (commonsense, rules of thumb, stereotypes, role models, etc.) do not impinge on educational personnel. The significance of this alternative body of knowledge is discussed later.

govern organizational behavior before seeking to identify KU incentives in particular. In the first place, it is possible that the introduction of new knowledge will pose a threat to any existing organizational reward. The classroom autonomy that is valued by teachers might be threatened by an innovation that demands coordination and performance visibility; or role efficiencies might be jeopardized by a complex, over-demanding practice. In the second place, KU might serve as a means of increasing the supply of any typically valued reward. Thus, if an opportunity to improve one's role performance, to gain a position of power, or to enjoy colleaguial relationships is a typical incentive for behavior, KU might be viewed by the actor as a means of enhancing the rewards associated with the incentive. In short, we must know what people value before trying to engage their interest in new knowledge of various kinds.*

Industrial and occupational researchers have long been concerned with the sources of job-related satisfaction. In a review of research on the work satisfaction of workers in different occupations and industries, Blauner (1960) identified four factors that seemed most useful in accounting for differences in satisfaction: occupational prestige, control, integrated work groups, and occupational communities. Prestige is a form of interpersonal reward whose source is the local community or broader society (although there is no reason why the concept could not also be applied to one's immediate associates). Control, which I will call task/role

* Charles Schultze (1970) makes a similar point: ". . .incentives for more effective and efficient performance of public programs cannot be considered apart from the structure of motivations, rewards, and penalties which determine the attitudes and actions of the bureaucracy."

autonomy, is broken down into three components by Blauner: control over time, physical movement and pace of work; control over the technical and social environment; and control as freedom from direct supervision. Integrated work groups also refers to interpersonal relationships, but focusses on performance of the task. As Blauner points out, "There is much evidence to support the proposition that the greater the extent to which workers are members of integrated work teams on the job, the higher the level of job satisfaction." He also notes that the human relations school for many years overlooked the task relevance of workers' relationships, focussing instead on morale, communication, informal structures of leadership, etc. (This tendency can still be observed in certain versions of Organization Development in schools.) Of even greater interest is Blauner's reference to "occupational communities," or workers' relationships off-the-job, as a significant factor in work satisfaction. Interestingly enough, teachers have not been conspicuous for their sociability off the job except under special circumstances, such as intensified union activity or participation in teachers' centers. (This feature of public school teaching, which contrasts sharply with college teaching, clearly deserves to be investigated, but thus far has been almost entirely ignored.)

Havelock (1969:5-24-25), following Collins and Guetzkow (1964), emphasizes task-environmental feedback and interpersonal feedback as two basic kinds of organizational rewards. The former stem fro. the outcomes of one's performance, while the latter originate in

interpersonal relationships, such as the approval of peers, the confidence of customers or clients, etc. Further, Havelock points out that because task rewards are often delayed, interpersonal rewards play a key role during performance. (Research has shown that this role is all the more critical in situations that entail high risk, such as combat, mining, competitive educational settings, etc.)

Clark and Wilson (1961) claim that there are essentially three types of organizational incentives: solidary, purposive, and tangible. While purposive incentives refer to the performance of a task, Clark and Wilson focus on commitment to the goal itself rather than on its fulfillment. In short, one may internalize an objective to such a degree that its very pursuit is gratifying apart from "task-environmental feedback". If we think of associations dedicated to the alleviation of poverty, war, class exploitation, and the like, it is clear that the opportunity to pursue fundamental values can serve as an incentive independently of one's <u>success</u> in realizing these values. A third incentive mentioned by Clark and Wilson, tangible benefits, supplies another familiar type of reward, one which is sometimes referred to as "extrinsic". Of the three incentives, therefore, two are <u>external</u> to the subject while one appears to reside in the actor's <u>predisposition</u>, or internalized value system. What this formulation seems to overlook is that there are also predispositions for the pursuit of interpersonal and tangible rewards, and also external

rewards of purposive motivations. This point refers to a basic weakness of the intrinsic-extrinsic dichotomy, to be discussed later.

Fraser (1969) asserts that "the nub of the distinction" between intrinsic and extrinsic sources of satisfaction or dissatisfaction "inheres in the attempt to differentiate between responses which have their roots in the very nature of the job itself and those that are generated by the particular contextual conditions in which the job is embedded." The latter would include responses to rate of pay, job security, recreational facilities, and the like. In addition, Fraser distinguishes between "egocentric" and "socio-centric" orientations toward an object or end-state. These two dimensions of performance-relatedness and self-other orientation contribute a needed refinement to Clark and Wilson's concept of purposive incentives.

A basic distinction is made by Katz and Kahn (1966) between individual and system rewards. The former are dependent on individual performance, while the latter apply across the board to all incumbents of an organization or role. Thus, most of the formal rewards for holding office — a set salary, a certain measure of security, fringe benefits, vacations — are system rewards; and one might also include interpersonal rewards and less formal material benefits (perquisites) that are associated with particular roles.

A larger set of incentives was developed by Barnard (1938).

His taxonomy specified the following sorts of organizational inducements: material; personal, nonmaterial opportunities (power, recognition); desirable physical conditions; ideal benefactions (altruism, pride of craft, etc.); associational attractiveness; adaptation of condition to habitual methods and attitudes; opportunity for enlarged participation; and communion. It is noteworthy that Barnard recognizes several subtypes of solidary rewards; and also that he adds physical conditions and opportunities to control one's environment (or what I have called task/role autonomy), reminding us that individuals should not be regarded as hapless victims of their technology and working conditions, but as able and eager to select or modify features of their environment. (This applies most cogently to professionals and semi-professionals, perhaps.) His reference to "opportunity for enlarged participation" is also worth special note since it signifies reaching out to become involved in affairs beyond one's immediate community or narrow personal interests. It thus evokes a notion of cosmopolitanism. Barnard's taxonomy, however, offers little basis for judging exhaustiveness or logical relatedness of categories. This deficiency is even clearer in Schon's (1967) list of organizational incentives: promotions, salary, freedom to do interesting work, freer and more intimate contact with management, respect of peers, power, and continuity of culture and sense of self.

A few theorists who have focussed on schools have offered their own list of incentives. In addition to "extrinsic" and "psychic"

* Barnard does distinguish between "specific" and "general" inducements, a distinction that anticipates Katz and Kahn's "individual" and "system" rewards.

(intrinsic) rewards, Lortie (1975) adds "ancillary" rewards. These are objective aspects of the work situation, but are taken for granted rather than formally stipulated in contracts. A clean work environment, security, access to valued colleagues, and so forth, are some examples. Since ancillary rewards are part and parcel of an occupational position, they are not affected by the amount of effort one exerts. Thus, they are similar to what Katz and Kahn (supra) call system rewards as distinct from performance related rewards. This means that they affect recruitment to and persistence in an occupation, but not the amount of daily exertion. In the teaching profession, according to Lortie, this is also largely true of extrinsic rewards (money, power, prestige) owing to the "unstaged" nature of the teaching career, a point to be elaborated later. Of far greater motivational potency to teachers, then, are the "psychic" rewards of daily effort. This is an important point, for it is clear that tangible benefits have a different meaning to the actor when they are to be earned instead of being simply rendered by virtue of role incumbency.

Spuck (1974) developed eight reward scales for teachers: material inducements (monetary), support and recognition of community, physical conditions, pride of workmanship, social interaction with peers, agreement with district goals and policy, ability to influence school policy, and environmental working conditions. Since Spuck's work was based on several of the aforementioned taxonomies, these are reflected in his scales. Of special interest is his

inclusion of "support and recognition of community," a domain about which we shall have a good deal to say. However, he seems to have overlooked sheer external pressure from the community, probably because he was not concerned with change as a dependent variable in his research. Also of interest is his clear distinction between material inducements and power, and his inclusion of physical conditions of the school and environmental working conditions, such as administrative assignments and classroom autonomy, which Lortie might call "ancillary" rewards. Finally, following Barnard's notion of "ideal benefactions," Spuck includes congruence between personal and organizational values ("agreement with district goals and policy").

Thus far we have discussed incentives for organizational behavior in general. When we turn to a consideration of incentives for KU in particular, we are struck on the one hand by the omission of several of the sources of satisfaction mentioned above. On the other hand, a focus on change as a dependent variable (rather than on such matters as absenteeism, turnover, morale, etc.) leads to recognition of types of incentives omitted from the organizational literature, and also raises the important issue of "disincentives."

A review of the dissemination literature by the National Testing Service (1977) refers to "desire to do a good job" as one of three major incentives for KU specifically. Other incentives mentioned by NTS are "desire for aggrandizement," which points to the exploitative potential of KU resources and involvement in change,

and "the desire to innovate in self-defense against pressure from external agents." This last point highlights the significance of sheer external pressure, and directs attention to a domain of incentives that entails avoidance of threatened deprivation. Self-defensive compliance with pressure is also recognized in Havelock's (1969:8-45) comment that non-material rewards include "expected pleasures from adoption and also discomforts and conflicts averted by adoption." And in an article on incentives for innovation in education, Pincus (1974) refers briefly to an aversive inducement as a "negative incentive" (p. 120). In short, incentives may be sticks as well as carrots.

But the NTS list is most notable for its reference to incentives as motivations ("desires") instead of as external objects or events, which suggests that the term has two very different meanings: objective stimuli and predispositions.

Other incentives for KU mentioned by Pincus (supra) are subsidies, resources, approval of peer elites, and bureaucratic safety. Interestingly enough, this last type refers to an attribute of an innovation, being found "when the innovation is perceived as favorable with respect to the current status and organization of the bureaucracy. . ." (p. 120). We are thus put on notice that incentives may reside in certain features of products or practices. This class of prospective rewards was Doyle and Ponder's (1977-78) primary concern in their discussion of three innovation attributes: instrumentality, congruence, and cost. These attributes, according to

them, are of utmost concern to the "practicality ethic" of teachers. Of course, many attributes of innovation that are believed to enhance adoption and implementation have been discussed in the literature, but ordinarily these are not regarded as "incentives" for KU. For the emphasis seems to be on the objective usefulness and structural amenability of an innovation, rather than on its operational meaning to school personnel.

Neal (1965) classifies individuals into those who are change oriented because of higher ideals versus those who are self-interested, and those who are anti-change oriented for the same two reasons. The reference to higher ideals evokes the purposive incentives of Clark and Wilson (supra). It is interesting, moreover, that Neal (like Fraser, supra) refers to an orientation with respect to either self-interested goals or ideal goals. This suggests that individuals may be either extrinsically or intrinsically motivated, and might therefore fasten upon the same external object or event for quite different reasons. This raises some question about the advisability of referring to certain external sources of gratification as inherently intrinsic or extrinsic. In short, Neal reminds us of the importance of studying predispositions inasmuch as it is a predisposition that imputes value to particular objects or events.*

Another contribution of Neal's scheme is tacit recognition of disincentives. By noting that one might also reject change for reasons of either higher ideals or self-interest, he invites attention to the operation of discouragements, costs, threatened penalties,

* Typologies of teachers and administrators are often based on those features of the occupation which they value most. These motivational typologies thus also give hints about possible incentives. See, for example, Ashley, et al, (1970) and Kester and Hull (1973).

and the like, of engaging in KU. And particularly noteworthy is the notion that not all "resistance to change" is motivated by self-interest. Such resistance might rest on idealistic, thoroughly professional grounds — a possibility that is rarely entertained with respect to school personnel, who are often viewed by KU sponsors as simply having a status quo mentality.

In an effort to stretch the thinking of KU theorists about the functions of knowledge utilization for school personnel, Sieber (1974) listed a number of ways in which knowledge is utilized in schools. Several of these have a strong flavor of practicality and self-interest, while others suggest an intrinsic motivation that might be called simply professional curiosity or enlightenment:

- legitimating what one is already doing, or has decided to do or not do
- winning an argument
- satisfying intellectual curiosity
- learning about practices that ought to be shunned
- becoming aware of possible pitfalls or barriers in a course of action
- keeping abreast of what educators are doing elsewhere
- learning about courses at local colleges or fulfilling requirements for courses
- raising awareness of the world of educational RD&D, e.g., learning about the existence of a regional lab
- gaining a clearer conceptual map of one's activities or context
- being inspired to higher levels of energy or commitment

Although this list is remote from a systematic inventory of rewards

or motivations for KU, it reminds us that knowledge may be sought for reasons that are tangential, and perhaps even detrimental, to classroom or administrative problem-solving.

Finally, mention should be made of the five types of incentives for KU noted by Greenwood, et al (1975:37): tangible rewards, chance to learn a new skill, opportunity to implement ideas, solution to student needs, and professional stature.* Here we meet once again the material and interpersonal incentives mentioned by several writers, and also the performance-oriented rewards of an opportunity to implement new ideas and to satisfy student needs. (This latter, incidentally, has been the exclusive focus of several studies of KU behavior, a focus that is obviously inadequate.)

It is curious that none of the organizational theorists cited here refer to a desire to comply with legitimate commands. Several note that individuals seek power, but none that they also seek subservience, however limited. This incentive for participation in organizations is suggested by Max Weber's recognition of the value invested in authoritative relationships. As Bendix (1977:19-20) puts it in an exposition of Weber's ideas: "Men may be guided not only by considerations of utility and affinity, but also by a belief in the existence of a legitimate order of authority. . . a legitimate order depends upon an organizational structure maintained by the persons who exercise authority and claim legitimacy for this exercise." Hence, we shall want to include the opportunity for compliance with a structure of legitimate order as a distinct incentive,

* With respect to professional stature, the report of the Interstate Project on Dissemination (1976:44) points out that SEA's might encourage local KU through commendations and awards, and gives an example of this incentive being used in one state.

noting that the opportunity to exercise authority or power is the opposite side of the same coin. These two inducements may be grouped together as authoritative incentives.

This brief excursion into classical theory of social action brings to mind another famous effort to reduce human motivations to a small and manageable number. W. I. Thomas (1918:I,73) posited four fundamental "wishes of man": the desire for new experience or fresh stimulations; the desire for recognition; the desire for mastery; and the desire for security. We have already met all of these wishes save one: the desire for fresh experience. This is especially worth keeping in mind as a possible incentive for KU. In fact, Weiss (1977) regards "enlightenment" as a major function of KU, an idea that is reminescent of Barnard's (supra) reference to "the opportunity of enlarged participation."

It would not be surprising if our short review of taxonomies of incentives left the reader with a sense of disorientation. Their infinite variety suggests that diverse assumptions, as well as diverse purposes, underlie this field of theory. And yet, the somewhat random quality of these inventories gives some hints about a few major dimensions that might be sorted out. Clearly, some limited set of dimensions is needed to develop a comprehensive and logically articulated theory of incentives for KU. As Havelock (1969:11-27) very correctly points out, "The spectrum of significant rewards is, of course, vast, and different users place different values on various types of rewards." The same might be said of different theorists. Thus, not only must we eschew the shopping list approach, but some notion of predispositions must also play a

role in our final framework. Before synthesizing the taxonomies, therefore, let us examine the dimensions that have emerged.

The first issue is the meaning of "intrinsic" and "extrinsic." As we have seen, this distinction implies several things: a source of gratification that is self-contained versus a resource that is useful for purchase of gratification elsewhere; a predisposition toward ideal goals versus self-interested goals; a role emphasis on individual performance versus an emphasis on incumbency as a condition for acquiring rewards; and intangible versus tangible benefits. The idea also contains an implicit proposition: that these four aspects are empirically related to one another in a highly predictable fashion, namely, that an individual with an idealistic orientation will be concerned with the self-contained, intangible rewards of individual performance, while one with a self-interested orientation will be concerned with the tangible rewards of sheer role occupancy that can be used as a resource for acquiring gratification elsewhere.

Thus starkly stated, these propositions seem a bit superficial. In the first place, there is probably a good deal of ambivalence if not conflict within many actors regarding the two predispositions, especially if they have been indoctrinated with professional values that are unrewarded in actual practice, which is probably the case with many teachers. Also, the norms of the peer culture or organization might conflict with one's basic orientation toward the job, thereby creating ambivalence and a sort of hybrid orientation. Indeed, group pressures might prompt a certain amount of external conformity in role performance that is at odds with one's basic outlook.

Further, it is not true that only achievement of performance goals can be gratifying in itself, while material rewards are mere resources. The acquisition of wealth or power can be satisfying in itself, and individual goal achievement can be exploited as a means of gaining other goods. In short, achievement can have remote, instrumental value, and tangible rewards can have immediate, subjective value.

Also, it would be a grave mistake to assume that tangible rewards are unimportant to idealistically motivated individuals. For tangible rewards can symbolically affirm the importance of one's idealistic goals, and therefore be sought even by persons imbued with a strong sense of mission. A lawyer who devotes his attention to the public interest, for example, will not expect to earn as much as a private practitioner, but he would resent being paid a salary that was demeaning to the vital importance of his efforts in behalf of the public weal. Moreover, a performance-oriented actor often demands an increase in tangible resources to enable him to promote his ideals, to serve his clients more effectively, to have control over others in behalf of his goals, and so forth. Thus, tangible rewards might be sought by goal oriented actors either as a symbol of a role's value or as a resource for its fulfillment. It is the <u>purpose</u> of seeking material benefits that is at stake in the distinction between idealistic and self-oriented actors, not the sheer mate-

riality of those rewards. Any notion to the contrary probably stems from an ideology that legitimizes the reduction of material benefits to actors in the public sector. (The school board member who argues that teachers should not strike for higher pay because it is "unprofessional" is exploiting this myth to the full.) In sum, the motivational dimension of the intrinsic-extrinsic dichotomy is somewhat orthogonal to the materiality dimension.

Finally, it is by no means clear whether certain obvious rewards should be classified as "intrinsic" or "extrinsic." Recognition from others, pleasant physical surroundings, the performance of a duty when it is legally binding, or even power are a few incentives that do not fall readily into these categories.

Because of the ambiguities and hidden dimensions of the intrinsic-extrinsic dichotomy, I will use the terms "performance related" and "material," etc. incentives without prejudging the issue of whether these sources of gratification are instrumental or self-contained. It would seem advisable, however, to break down the performance related domain into several distinct types of incentives so that it can be operationally distinguished from other domains. It would also seem necessary to add a wholly separate dimension, one which distinguishes between client-oriented and self-interested motivations. And finally, the dimension of system versus individual incentives should be treated as a standard for the conferral of rewards, namely, for role incumbency or for individual effort, respectively.* In sum, the various aspects of the popular intrinsic-extrinsic dichotomy need to be clearly sorted out. Such conceptual differentiation is necessary for the interpretation of the current state of affairs and for the guidance of future research.

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* None of the organizational theorists I have reviewed mentioned a third basis for allocation of rewards: personal or social attributes such as sex, sexual preference, race, age, etc. We must not commit the universalistic fallacy of excluding these criteria, which are probably as important as any other, and sometimes more so, in allocating rewards.

Another major dimension concerns incentives vs disincentives. What is meant by the latter term? Although what are customarily referred to as "barriers to change" are familiar enough, these are not the same as disincentives. Ignorance of available options or of resources for innovation is clearly a barrier to enlightened reform, but one would be wide of the mark to call it a disincentive for change. For a disincentive must be apprehended at some level, if only as an inarticulable source of threat. Thus, lack of implementation skills might be a barrier, but it would not be a disincentive unless school personnel believed that their lack of know-how would make an innovative effort worthless, or unless they felt frustrated because of inability to do the job. Similarly, a practice that was viewed as too procedurally complex would also present a disincentive, regardless of its complexities as seen by designers or promoters.

The simplest way to think of a disincentive is as something that poses a prohibitive cost to the actor — to his pocketbook, his security, his freedom of action, his self-esteem, his organization, his performance, etc. Thus, if the actor values effective performance, then the possible failure of a change effort poses a prohibitive cost; if he values ease of application or continuity of existing structures, then perceived complexity or disruptiveness poses a prohibitive cost. In short, disincentives are imputed by

the actor in accordance with certain predispositions in the same manner that incentives are imputed.

The significance of disincentives is not only that they are quite common and often overlooked, and even fostered, by RDD&E experts who fail to comprehend the perspectives of school personnel, but also that incentives will not induce action unless they outweigh disincentives, that is, unless imputed benefits exceed imputed costs. This is not to say that school personnel engage in a careful calculation of costs and benefits like businessmen. As Chester I. Barnard (1938:140) notes: "Only occasionally as to most persons and perhaps as to all persons is the determination of satisfactions and dissatisfactions a matter of logical thought." In fact, it is possible that certain organizational conditions will prompt an actor to pay more attention or be more sensitive to either prospective costs or prospective benefits. A condition of role insecurity, heavy work load, harsh subordination, or tight integration of organizational components, for example, probably sharpens one's sensitivity to disincentives. For when persons feel exploited, or when the conditions that protect them are in delicate balance, they are especially likely to focus on the threatening aspects of change efforts endorsed by superiors. Thus, even if the incentives for KU would be found to outweigh disincentives if only they were given equal attention, the latter might automatically prevail in the subjective calculus of prospective gains and losses.

It should be remarked that disincentives are easily distinguished from negative incentives, which point brings us to another basic

dimension that one can detect in the literature, namely, positive vs negative inducements. Although both negative incentives and disincentives entail a threat of deprivation, the former promote action in an explicitly desired direction, while the latter preclude or thwart such action. The threat of a funding cut-off might induce the racial integration desired by Washington, but the local costs (social, economic, etc.) might forestall it. The cutting-off of funds is a negative incentive for integration, while the anticipated local cost is a disincentive for integration. *

What is less obvious is that disincentives may also be either positive or negative. The latter hold out the prospect of penalties for action without claiming that the status quo is superior in any way, while the former place a positive value on inaction, that is, entail endorsement of the present state of affairs. An example of such endorsement would be a deliberate emphasis on classroom regimentation and discipline as opposed to child-centered approaches, with suitable rewards for custodialism. And as this example suggests, it is probable that positive disincentives are more difficult to overcome than negative ones because they are rooted in ideology or organizational policy. The main point, however, is that there are also carrots and sticks that discourage KU; and as mentioned earlier, either kind of disincentive may be motivated by self-interest or by more ideal concerns.

Theoretically, then, the strongest combination in favor of KU would be a subtle blend of positive and negative incentives that

* I am aware that some writers use the term "negative incentive" to mean a disincentive. However, this preemption of the terms "positive" and "negative" would make it difficult to refer to incentives that are backed up by penalties as opposed to those that are backed up by prospective gratification.

would appeal to both self-interested and professionally (client-oriented) persons, together with some effort to anticipate and to cope with positive and negative disincentives, including those disincentives that are imposed by the delivery system itself. But it seems that this configuration is a rare ideal. Policies that are aimed at promoting innovation or other forms of KU almost never entail efforts to bring this configuration about and, consequently, tend to be self-defeating. Thus, the two positive incentives that are typically offered are the prospective outcomes of the new practice and funds; negative disincentives (penalties for KU), and especially those that are introduced by the delivery system itself, are not diagnosed; little or no effort is made to overcome positive disincentives (benefits claimed for non-KU); and negative incentives (penalties for non-KU) are not combined with positive incentives (rewards for KU) in a manner that counteracts disincentives without provoking resistance. Moreover, predispositions to either value or disprize particular rewards or penalties are seldom given consideration. But perhaps it is unjust to berate policy-makers for overlooking certain complexities of incentive systems that have been only dimly perceived by researchers and theorists.

Another dimension that emerges from the various taxonomies concerns the characteristics of KU efforts themselves that might serve as incentives/disincentives. This was suggested in particular by Doyle and Ponder's (supra) emphasis on the procedural clarity and feasibility of innovations as being of paramount concern to teachers,

and Pincus' (supra) notion of the "bureaucratic safety" factor. The "practicality ethic" of teachers, state Doyle and Ponder, demands that "a change proposal must describe a procedure in terms which depict classroom contingencies. Statements of principle or specification of desired outcomes are not practical simply because they lack the necessary procedural referents." (p. 27) But not only new practices afford incentives for effort, but the interpersonal rewards of engaging in a KU process might also offer inducements. Indeed, as Collins and Guetzkow (supra) point out, delay in feedback from task-performance often shifts attention to interpersonal rewards that arise in the very process of performance. But one may go further and say that material rewards (perquisites) can also stem from day-to-day engagement in process.

Here we depart farthest from traditional notions of incentives as proferred rewards for the consummation of an act. For what we are suggesting is that the very process of initiating, evaluating alternative solutions, implementing, and so forth, may incur rewards and penalties. As Berman, et al (1977:83) conclude from their data: ". . .mobilization strategies can generate staff commitment, and should therefore be a prime consideration in project planning." Such incentives/disincentives might be called operational as contrasted with consummatory inducements.

A noteworthy aspect of operational incentives/disincentives is their immediacy. Because of immediacy, they can sustain or dampen effort toward remote goals whose achievement is by no means assured.

Also, they can shift commitment from goals to means, thereby undermining a proper concern for ultimate outcomes of a KU effort. The enthusiasm that school personnel sometimes express for an instructional change effort in spite of the failure of objective evaluation to reveal any student impact whatsoever points to this pattern of goal displacement. (Bureaucratic ritualism, of course, stems from the same phenomenon of dedication to operations independently of goals.)

This does not mean that it is only consummatory rewards that appeal to persons who are client-oriented. Because of the delay in performance-environmental feedback, equally important to client-oriented actors are operational incentives; although sooner or later such rewards might tend to lose their attraction unless performance is positively consummated. And then, too, if a consummatory reward is motivated by self-interest, its achievement might not be followed by continued commitment, adaptation, or support of KU. We might then encounter what Steers (1972) calls "the ex-innovator as barrier to change": the person who "can semi-retire in his profession while drawing a salary," or who "sees little need for program modifications, for extensions or for initiating other innovations." In short, the operational-consummatory dimension of incentives is to a large extent independent of the idealistic vs self-interested motivational dimension, although certain familiar consequences may flow from different combinations of these two dimensions.

Although not mentioned in the literature (with the possible exception of some of Lortie's "ancillary" rewards), a final dimension needs to be acknowledged: formal vs informal incentives. Formal incentives are enunciated and applied as a result of explicit policy, while informal incentives arise from sources over which organizational policy has little or no control, e.g., peer relationships, supervisory attitudes, community values, and implicit sanctions of the RDD&E system, such as reputational standing in the profession-at-large. In this respect, the sources of incentives are similar to those of organizational norms. And just as informal norms may conflict with and even override formal norms in the governance of behavior (e.g., restrictive work norms of industrial workers vs production norms of management), informal and formal incentives may also confliot. In any event, it should be make clear that we are not solely concerned with the formal sanctions of educational systems. This distinction will become especially important when we turn to incentives/disincentives for KU that are internal to the local educational system.

The dimensions that we have identified and the specific kinds of incentives suggested by the literature are summarized below. A few refinements have been make to reflect the special nature of

knowledge utilization in education, particularly in the realm of "performance related" incentives. Since we are dealing with quasi-professionals, it would seem important to include task/role autonomy as a distinct incentive. Also, the incentive of role effieiency was suggested by the frequent observation that KU efforts are resisted because they impose disruption and overload, which implies that role efficiency (economy of effort) is an important, taken-for-granted source of gratification. Further, we have refined the interpersonal domain according to various types of role-partners.

The plurality of performance related incentives, incidentally, demonstrates that the term "intrinsic" covers several distinct types of rewards. Thus, I have carefully distinguished between goal achievement and the opportunity to express one's values through effort; between pride of craft (opportunity to apply skills) and task/role autonomy; and between sheer enlightenment and more actively oriented incentives. I have also included two incentives that are not ordinarily considered to be intrinsic at all: role efficiency and legitimation of practices.

A Taxonomy of the Principal Elements of
Incentive Systems Pertaining to KU

I. Types of Incentives (external sources of gratification)

A. Substance

1. Positive

Performance related

Task/role autonomy (freedom to control tasks and conditions)
Opportunity for value expression or for compliance with internalized norms
Opportunity to apply or to improve professional skills
Opportunity to satisfy professional curiosity; enlarge effective scope; enlightenment
Performance-environmental feedback (goal achievement; problem solving)
Role efficiency (economy of effort)
Attributes of knowledge (merit, simplicity, etc.)
Legitimation of practice

Material

Money
Security — personal and organizational
Time off (vacations, leisure time)
Fringes (health benefits, etc.)

Authoritative

Opportunity to comply with legitimate orders
Power or authority over others

Associative (interpersonal)

Esteem, prestige; appreciation of -
Organizational personnel
Peers
Subordinates
Superordinates
Others
Clients (students, parents)
Community (friends and strangers)
Amiability, pleasantness of relationships, acceptance

Physical environmental

Control over physical environment
Pleasantness of physical environment

Career advancement

Novelty, new experiences

2. Negative (threatened deprivation of any of above rewards in behalf of KU)

B. Schedule of conferral (immediacy)

1. Operational

2. Consummatory

C. Formal vs informal sources

II. Types of disincentives (threatened deprivation of any of above rewards that discourages or prevents KU)

III. Condition for conferral of rewards

A. Individual role performance

B. Role incumbency

C. Personal or social attributes

IV. Type of orientation, predisposition

A. Client-oriented (purposive, suprapersonal, idealistic, socio-centric)

B. Self-interested (egocentric)

C. Other (job oriented, career oriented, bureaucratic, etc.)

One of the chief merits of a taxonomy of incentive systems is that it provides us with the basic building blocks that constitute the many "strategies of change" found in the literature. These typologies have been exhaustively reviewed by Zaltman, Florio, and Sikorski (1977:73-82), and we have no intention of repeating their efforts. If we briefly reexamine the three condensed types (power, manipulative, and rational) proposed by these authors in terms of our taxonomy, however, we will immediately see that they are based on selected aspects of incentive systems found in the literature on formal organizations. In short, by juxtaposing these two lines of theory, we may be able to integrate two bodies of thought that have developed quite independently of one another.

The bridge between these two traditions becomes obvious when one realizes that the "strategies" pursued by different change agents are ultimately derived from certain <u>assumptions</u> about the sensibilities, motives, and rewards that are most salient among school personnel. It was in this respect that Chin and Benne (1968) and Sieber (1972) differed from other change strategists, for they asserted that what change agents typically do is inspired by certain assumptions about practitioners. Thus, Sieber's Rational Man, Cooperator, and Powerless Functionary strategies were claimed to be pursued by R&D experts, human relations consultants, and federal and local bureaucrats, respectively, in accordance with distinctly different "images" of practitioners. In contrast, the strategies formulated by most other theorists have been based on the objective array of

discrete activities that have sprung up in the past two decades for promoting KU. This latter approach has led to an endless elaboration of strategies that has spread through the educational change literature like the pox. At bottom, however, even these strategies reflect the assumptions about practitioners held by principal types of change agents.

Here I will return to my original point of view (i.e., Sieber, supra), but in a more systematic fashion, by noting that the strategies that are typically pursued are based on assumptions about the incentives/disincentives to which school personnel are susceptible. This moves us to a more fruitful level of thinking by focussing on the building blocks rather than on the idiosyncratic constructions of the strategy architects. Indeed, this focus shows that the miscellaneous strategies that have been constructed over the years are not only idiosyncratic in their conception, but weak in their construction. In particular, this perspective promises greater flexibility because it suggests that new approaches can be designed by rearranging the essential elements that motivate or discourage KU. The following chart shows the "incentive bases" of each of the Zaltman, et al, strategies, which strategies incorporate a number of others mentioned in the literature.

The chart reveals two things about current conceptualizations of change strategies: (1) they are implicitly based on selected aspects of incentive systems, and (2) they are sorely inadequate to the task of reflecting or elaborating fully the

The Incentive Bases of "Change Strategies"

Change strategies of Zaltman, et al (1977)	Incentive Bases	
Power (also, "authority strategy")	threatened deprivation of any source of gratification	negative incentives
Manipulative		
Persuasive ("urges acceptance of change")		
Utilitarian	material incentives	positive consummatory incentives
Normative	performance-related incentives	positive consummatory incentives
Facilitative (also, "didactic strategy"; easing of implementation)	operational incentives	
Rational or Reason (also, KU is "in own best interest"; "product development strategy"; "reeducative")	performance-related incentives	positive consummatory incentives
	material, power, etc. incentives (?)	positive consummatory incentives
	predispositional change (resocialization)	change in type of orientation (?)

numerous types of incentives/disincentives that have been identified in the organizational literature. For example, the "persuasive" strategy as described by Zaltman, et al, ignores the issue of dealing with negative or positive disincentives (e.g., overcoming role anxieties, and persuading against current policies or practices as well as persuading for new ones). And while it is limited to positive consummatory incentives, it omits a host of such incentives, such as the interpersonal rewards that often flow from successful KU, or the legitimation of current practices. The "facilitative" strategy is focussed on a narrow range of operational incentives/disincentives located within the school (e.g., no mention is made of positive or negative attributes of imported innovations or of external change agents). It also seems to exclude "persuasive" incentives, such as material or performance-related rewards, which are also of value in facilitation. Their "rational" strategy is concerned with getting the user to believe that "change is in his own best interest," which covers a wide array of tangible and intangible benefits, including performance-environmental feedback, status, power, and income. Nor does it include rational concern about implementation, i.e., operational incentives concerning the adjustment of means to goals. Further, it obscures the possibility of positive disincentives for change, which often entail rational consideration of the reasons for not changing. Again, the "power" strategy is said to be unique in its involvement of rewards and punishments, while in fact these enter into all types of change efforts and

strategies. (Is one not punished by the stress of implementing a complex innovation that disrupts role relationships, or by an innovation that simply does not work?) And finally, and perhaps most telling, the "strategy" approach does not seem to countenance the notion that strategies can inadvertently introduce disincentives for KU, that is, can work against themselves. This is most obvious with regard to the power strategy, but equally true of the others, as we shall see when we examine the incentives and disincentives that flow from the RDD&E system itself.*

In sum, it seems that the molecular terminology of incentives/disincentives might be preferable to the global language of strategy builders for delving into the complex social psychological world of school personnel. And while Zaltman, et al (1977:79), admit that "strategies can be mutually reenforcing rather than exclusive," we would argue that the strategies must be combined in order to invoke the full range of incentives to which persons are responsive. And the best way to combine them is at the molecular level.

* * *

In the following review and synthesis of research, we will organize our observations according to sources of incentives/disincentives. Incentives and disincentives may stem from relationships with the social context of the school or predominantly from within the educational system. The local community, for example, is often viewed as a source of negative disincentives in its lack of support for or resistance to a host of innovations, but communities are also

* The three models of change that were identified by Havelock (1969) — RD&D, Social Interaction, and Problem-solving — could be subjected to the same type of analysis. Briefly, the merit of new knowledge, interpersonal relationships, and problem solving, respectively, are the core incentives assumed to govern behavior. Quite obviously, a number of incentives are overlooked, and hence tend to be missing from Havelock's integrated "linkage" model. Havelock's analysis of the disincentives of the three perspectives is excellent, however.

a source of incentives in the pressures they bring to bear for particular reforms and the political rewards they offer to top administrators. The market structure of education, which is also a feature of relationships with the environment, is sometimes considered to be another major source of disincentives for KU inasmuch as it fails to supply competitive pressure for reform. Another external source, of course, consists of state and federal agencies, and private knowledge production and dissemination agencies, including the universities, which will be called here the RDD&E system. And here we must be careful not to assume that the role of such agencies is uniformly restricted to the provision of positive incentives. As mentioned earlier, and as I will discuss in some detail later, agencies that strive to induce KU often inadvertently produce disincentives. Thus, I do not assume that the school system is the chief source of disincentives, as is often done.

Perhaps this is the most suitable place to make a general point about the extent of KU in elementary-secondary education in America. The consensus for some 40 years (at least since the studies by Mort of "adaptability") has been that public schools are extremely sluggish in their pursuit of enlightened change. Emrick and Petersen (1978:66) reflect this conventional wisdom when they assert, "Their modus operandi is 'status quo' unless externally imposed incentives and resources impinge on them." But one wonders by what standard this judgment is rendered? When we look at other public sector organizations it is hard to escape the conclusion that an equivalent

attachment to the status quo, if not to the status quo ante, is pre-eminent. The criminal justice system has been condemned as a bastion of conservatism, inhumanity, and waste by a number of qualified observers; the welfare system is notoriously backward, repressive, and inefficient; many aspects of medical care have been criticized as iatrogenic (disease-causing); and public administration is almost universally condemned for ritualism, unresponsiveness, and self-protection. If we turn our gaze on private enterprise, we find innovations that are profit-enhancing but not especially contributive to the public weal — indeed, there is mounting evidence of public harm. The energy crisis has unveiled the technological conservatism of the steel and auto industries, energy producers, and makers of appliances, and the increased competition from foreign industry has verified this fact. Where, then, is our vaunted American innovativeness? Mainly, it appears, in armaments and space exploration, both technological fields that are substantially supported by the federal government.

The myth of a robust American innovativeness that is more than marginal differentiation for purposes of profit-making has fallen like a bludgeon on elementary-secondary education. Perhaps where it should fall if any place is on higher education, which seems to have implemented only a handful of original ideas in 50 years. Community colleges, open enrollment, sexual and racial integration, student participation in decision-making, Black studies, and research institutes almost exhaust the list, and most of these innovations were forced upon higher education by agitation for reform. Public lower education,

in contrast, has implemented in varying degrees: desegregation, career information centers, teacher centers, courses in the social sciences and consumer education, many elements of the post-Sputnik science curricula, educational television, language labs, and a hailstorm of special products and practices. And if one is reluctant to believe the national surveys of innovation adoption (Havelock, 1973; Nelson and Siebor, 1976; Abramawitz and Tenenbaum, 1978; Rosenblum and Louis, 1978), all of which show substantial activity, then one may ponder the fact that in any given year about 50 per cent of teachers make some "special effort" to find information about new methods and 40 per cent do so with regard to selecting instructional materials (Hood and Blackwell, vol. II, ch. III-17). As Gross, Giaquinta, and Bernstein (1971:204) correctly point out: ". . .in many organizations the empirical reality is that a number of their members are exposed to irritating problems and needless strain, and consequently would welcome innovations that appeared to offer solutions to their difficulties."

The myth of a stagnant educational system that is resistant to KU deserves the attention of the sociologist of knowledge. And an answer to the question of <u>who benefits</u> from the myth may help us to explain its perpetuation. Without belaboring the point, it may be noted that the annual federal outlay for educational RDU by the Department of HEW alone was estimated to be $382 million in 1977 (Nelson, Sowers, and Mason, 1977), and the number of persons engaged in this endeavor has been placed at about 10,000 (NIE, 1976).

An enterprise of this magnitude is not inclined to put itself out of business by pronouncing only a moderate need, or even a reduced need, for its services. This may help explain why "most discussions of organizational change [in education] highlight the barriers against change rather than the tendencies toward it" (NTS, 1977), and concomitantly ignore the possibility that some of the greatest barriers are located in the sponsorship system itself. This is a bias that I will try to avoid in my exploration of incentives for KU.

This is not to deny that experiential knowledge and common sense do not predominate in the belief systems of teachers and administrators. Role models from one's own early schooling, assumptions about the motivations of youth, racial, economic, and social prejudice toward certain types of student backgrounds, rules of thumb, predilections, hunches, and tricks of the trade that have accumulated in one's professional life — all of these forms of knowledge play a large, and probably predominant, role in the belief systems of school personnel. Much more needs to be known about this body of folk wisdom, not the least reason being that formal knowledge that is in some sense incompatible with it will probably be ignored or resisted. As Holzner and Fisher (1979:12) observe: ". . .patterns of commonsense, including expectations of minimal knowledge or skills that a person 'ought' to be able to display, may be exceedingly significant contexts or even competitors for the application of formal expertise or knowledge."

Indeed, some students of knowledge utilization believe that professional social science knowledge (substantiated, authoritative, scientific, etc.) will never function as more than a supplement to ordinary knowledge, despite the imperial claims of the former to give us the most useable truths (Lindblom and Cohen, 1979). Moreover, Weiss (1977) believes that a process of gradual enlightenment as contrasted with decision-making is a major function of KU. If these viewpoints are valid, then the best that one can hope for might be the infusion of expertise in a form that is not incompatible with ordinary knowledge and that is adaptable to a role of supplementation instead of dominance. Very little is known about the interaction of formal knowledge and ordinary knowledge, but it is not to be doubted that some sort of crucial interaction takes place when R&D expertise intersects with local belief systems.

This appreciation of the relatively feeble role of systematic knowledge in education, however, does not mean that incentives for its use are not present, or even not widespread. It simply means that we may have been looking in the wrong place for KU incentives, that we have given too little attention to the gradual and supplemental functions of R&D knowledge, and that we have tended to ignore certain major uses of new knowledge that are not encompassed by "problem-solving," "decision-making," or "capacity-building." Indeed, this triumvirate of reified concepts poses one of the major barriers to a fresh examination of what school personnel actually do with knowledge and why. More will be said on this point when we discuss "enlightenment" as an incentive in Chapter 3.

My discussion of research and theory bearing on incentives/disincentives will deal first with external sources and then with sources that lie within the educational system. External sources are divided into (1) the RDD&E system, including attributes of knowledge itself (innovations, information, and model change approaches), and (2) the local community context. Internal sources are discussed in terms of the functional needs of the educational system, including its occupational structure and technology.

CHAPTER 2

External Sources of Incentives and Disincentives for KU

The RDD&E System

The term "RDD&E system" is here applied to that conglomeration of agencies and roles external to the school that have a stake in educational change based on systematic research, dissemination, development and evaluation.* It includes the following activities: management (funding, administration); evaluation; capacity building (organization development and promoting readiness for KU); socialization (training, human development); technical assistance (consultation, process helping); resource building; needs assessment of local districts and schools; dissemination; and persuasion (advocacy, demonstration, marketing).

While one would assume that the RDD&E system would offer a number of inducements to local educators for knowledge utilization, it seems that the complex issue of incentives has been either overlooked or grossly mishandled. This has probably resulted from an early assumption that school personnel were able and willing to try out and adopt any practice that would demonstrably improve performance. Consequently, a great deal of emphasis was put on enhancing the quality of substantive resources (up-to-date, field tested, comprehensive, etc.), their availability through dissemination systems, and the financial means of implementing them. And here we have the three major putative incentives for knowledge utilization that have been

* My use of the term "system" does not assume a high degree of integration, functional specialization, consensus on goals, continuity, or self-corrective behavior. A social collectivity with low values on these dimensions is nonetheless a system, however.

tacitly endorsed by most segments of the sponsorship system: demonstrated effectiveness, access, and money. The emphasis on these putative incentives has yielded a technological-pecuniary strategy that rests on a number of implicit assumptions about the target system of local districts and schools, assumptions which have been increasingly challenged by research. In effect, we have too long entertained the Rational Poor Man image of educators that holds that they are not only information processors but problem-solving addicts, and need only the wherewithall to satisfy their habit. And by ignoring the context and motivations of practitioners, we have not only ignored the issue of genuine incentives for knowledge utilization, but in some cases generated disincentives in addition to those that already prevailed. Let us turn, then, to a discussion of the incentives/disincentives that have been posed by the RDD&E system.

The incentives/disincentives to be considered stem from: features of external knowledge, financial support, government coercion, academic agencies, consultants and resource linkers, and non-academic agencies.

Features of external knowledge as incentives/disincentives

We will first look at the attributes of information, then turn to those of new practices and products (innovations); finally, we will examine some features of change effort approaches that have been externally developed and tried out in local settings.

As suggested above, a Rational Man image of practitioners is based on an assumption that information deemed to be of high quality by experts will be adopted and used as intended. Thus, ERIC was established on the assumption that school practitioners would avail themselves of its offerings, which were to be screened by a number of clearinghouses. Subsequent research (Fry, 1972), however, showed that the main users of ERIC were college and university students who were motivated by course grades instead of practice improvement in schools. When school personnel did turn to formal sources of information instead of colleagues, ERIC was the source least often used.

More direct evidence of the low priority of the inherent quality of external information to school personnel is supplied by Hood and Blackwell (1976:VI-13). They found that up-to-dateness, authoritativeness, impartiality, and lack of bias of information were all virtually at the bottom of the hierarchy of preferred characteristics of information sources among teachers and principals. Characteristics that were most important were relevance ("is likely to have the information I want"), accessibility, and ease of use. Only principals gave high priority to "provides for new ideas or different viewpoints." These data signify that certain operational attributes of information sources are of far greater concern to teachers, and of somewhat greater concern to principals, than certain meritorious features of the information that might be made available to them from these sources. This conclusion about the importance of operational features is supported by the fact that local, interpersonal sources of information are

preferred and utilized much more often than formal or more remote sources (Hood and Blackwell, 1976:V-3-9). The emphasis on interactive information-gathering from local sources no doubt reflects the importance of convenience and non-threatening peer relationships. Thus, operational incentives are critical.

While the consummatory incentive of informational merit seems to be of minor importance, another incentive related to ultimate use seems to be quite influential, namely, relevance. In fact, relevance might be regarded as the basic prerequisite for ultimate use of information. Hood and Blackwell (1976:VI-13) found that the item "is likely to have the information I want" was the most important feature of the information sources that were preferred by educational practitioners.

A better guarantee of relevance might be another reason, then, for the tendency to seek information from local colleagues. For the low relevance of external information to school personnel, even when provided by computerized or manual searches by experienced retrieval personnel, seems to be a fairly common shortcoming. Sieber, Louis, and Metzger (1972:570-572) found that "not relevant to my problem or need" was one of the most frequently voiced complaints of personnel in two of the three states they investigated. Almost a third cited this problem in the two states. (Computerized searches were more often responsible than manual searches for

yielding non-relevant materials.) An equally frequent problem was "specificity," which might have caused difficulty in determining relevance. The third most frequently cited problem was "not comprehensive enough." As the researchers point out, "Obviously, the clients are expecting information that comprehensively fits their particular need — not exactly a contradictory set of expectations, but an extremely difficult combination to fulfill." It was interesting, moreover, that only small proportions mentioned that the information was "too technical or complex." This suggests that formal retrieval systems have solved the conceptual and terminological problems of knowledge transfer, but that the problem of relevance remains. Also, very few complained that the information was "difficult to implement in my school." No doubt this reflects the supplemental or enlightenment function of information retrieved from external sources in contrast to the demands that are imposed by holistic practices, programs, or products (innovations).

The concept of relevance, it should be noted, is a multi-faceted one. A person who seeks relevance in new knowledge could be concerned with: applicability to a particular self-defined need or problem (as was assumed by Sieber, et al, supra); suitability to one's clientele; feasibility of implementation or acceptance under local conditions; congruence with personal goals, values, and beliefs, and especially with "common" knowledge as distinguished from technical knowledge; or appropriateness to one's level of concern (e.g., practice improvement vs enlightenment), or to one's stage in a change process. A finding of non-relevance, therefore, is only the beginning of under-

standing. To my knowledge, however, no one has probed the diverse meanings of this attribute held by school personnel. Since a requirement of relevance might be the sine qua non of information sources, in-depth study of this factor would seem warranted.* Presently, it appears to be assumed that school personnel seek to match information with a clearly defined need related to practice improvement. As I have suggested, however, there are several other considerations that might govern judgments of relevance. (Later I will look into the question of whether a "problem-solving" motivation for KU exists at all.)

In sum, while merit seems to play an insignificant role in the search for information of various kinds, convenience and interpersonal relationships (both of which may be regarded as operational incentives in this instance) play major roles. Further, when external information is made accessible, it is the non-relevance of resources that becomes a major problem. Finally, in view of the insignificant proportion of clients who complain about the difficulty of implementing information from outside, implementability might be a major operational incentive for resort to formal, general purpose information sources.

It is possible that the objective merit of innovations is of greater concern to school personnel than that of information, the latter more often serving the function of a catalyst of thought and action instead of imposing a holistic set of new practices. In any event, it is clear that enormous effort has been devoted to developing new products and practices of high calibre on the assumption that inherent quality or authenticity would speak for itself. This seemed to be the assumption underlying the NSF curriculum development movement in the post-Sputnik years. As a result of

* One possible reason for criticism of relevance is that educators lack clear-cut criteria for judging relevance. We will return to this issue later when we discuss "structures of relevance."

widespread publicity and a national sense of urgency, the new curricula were in fact widely diffused. But it eventually became apparent that modifications were being made in the materials and the recommended "inquiry" methods of teaching that departed sharply from the designers' intentions, that the short term institutes were not able to resocialize teachers, and that only remnants of the curricula were being continued several years later (NIE Cirriculum Development Task Force, 1976). Further, when a new emphasis on the basics emerged, science education lost its drive toward fundamental reform (New York Times, Apr. 22, 1979).

Nelson and Sieber (1976:224) found a moderate relationship between the judged "educational worth" of fourteen innovations and their frequency of adoption in urban high schools. (The rank order correlation was .34.) But as they point out: ". . .the level of this relationship provides a rough estimate of the extent to which urban education is availing itself of the better practices produced by research and development. Perhaps it is not inappropriate to observe that within a perfectly functioning system of research, development, and dissemination, this correlation would approach unity. Thus, it appears that we are still far from realizing this ideal goal."

Although Yin (1976) did not restrict his analysis of case studies of innovation to educational settings, it is of considerable interest that he failed to find a relationship between the

"previously demonstrated merit" of technological innovations and their incorporation (pp. 72-75). Moreover, a negative relationship was found between demonstrated merit over existing practices and success. In short, it seems that the quality of an innovation (as deemed by experts) is not a predictor of ultimate use. Berman and McLaughli (1978:161) reached the same conclusion on the basis of their study of some 300 educational innovations, many of which had been developed by R&D laboratories and universities. This does not mean, of course, that R&D experts can relax their vigilance in the pursuit of beneficial practices, but that they cannot rely on merit to ensure implementation.

An emphasis on the objective merit of externally developed practices might even present a disincentive for adoption/implementation. For implied in this emphasis are two things: (1) what practitioners have been doing all along is inferior; and (2) the innovation should be adopted without alteration. These implications attack one's positive self-appraisal of role performance and violate task/role autonomy, thereby encouraging token adoption at best. If new practices or programs were as definitive as a new drug or seed, and if the results of using them were as measurable as curing an infection or growing a bigger crop of corn, then these implications might be overriden by the expected pay-off. But local practitioners consider themselves experts also, at least with reference to their particular setting, and the nature and outcomes of educa-

tional innovations are anything but clear-cut. This suggests that it might be more effective to emphasize the adaptability of new practices rather than their inherent quality, a point that we shall return to later.

Before turning attention to other attributes of new practices or products that might function as incentives/disincentives for KU, two weaknesses of research and theory need to be noted. One is that features of innovations tend to be considered separately without adequate attention being given to the effect of bundles of attributes and their interaction. Indeed, an attribute that would tend to be a serious disincentive when considered by itself might have a wholly different effect when combined with certain other features. For example, considerations of cost or lack of instructional value might not only be outweighed by popularity, but cost might be considered a virtue inasmuch as it reflects the district's willingness to "buy only the best." Meanwhile, still another attribute of the same practice or product might be needed to reenforce the decision to adopt or implement. For example, the popularity of instructional television might tempt schools to spare no expense in installing equipment; and indeed, the higher the expense the greater the impression of commitment. But the attraction of easy, non-disruptive installation might be the incentive that tips the balance in favor of adoption in spite of low quality and high cost. Interestingly enough, this example appears to be more than hypothetical. Nelson and Sieber (1976) found that television instruction was being used relatively often by urban secondary schools despite cost and relatively low "educational worth" as judged by a national panel of

secondary school experts. Popularity and only moderate difficulty of implementation, they suggest, might have combined to overcome these traditional disincentives.

Another implication of thinking about new knowledge as bundles of attributes is that researchers need to discover the configurations that are commonly perceived by practitioners. For example, it might be the case that explicitness, communicability, and low risk are highly (negatively) associated with complexity in the eyes of school personnel. Instead of considering these dimensions separately, therefore, it might make more sense to treat them as forming a perceptual gestalt. If several such gestalts could be identified, research on the influence of knowledge attributes might be considerably advanced. For it is very doubtful that school personnel consider the attributes of new knowledge in atomistic fashion, but instead form certain global impressions; and it may well be these impressions that shape behavior.

Another weakness of current discussions of innovation attributes is that little distinction is made between consummatory and operational incentives/disincentives posed by these attributes. Rogers and Shoemaker's (1971:139) concept of "perceived relative advantage," for example, which they define as "the intensity of the reward or punishment resulting from adoption of an innovation," combines consummatory and operational incentives. "Profitability" and "decreased discomfort" are consummatory, but "low initial cost" and "lower perceived risk" seem to be operational. Havelock (1969:8-43-44) has

also noted this lumping together of two distinct types of attributes in the concept of relative advantage; but he claims that what Rogers was "reaching for" was a balance sheet of plusses and minuses. But then Havelock seeks to exemplify his own interpretation by inserting only consummatory rewards and operational costs into the balance sheet, completely overlooking the fact that there are also consummatory costs and operational rewards. Clearly, the concept of "relative advantage" needs to be treated with greater analytical finesse than it has been accorded thus far.

Unless the two types of rewards and costs are conceptualized and measured independently it is impossible to examine the relationship between the means and the ends of KU. One assumes that some balance between long-range goals and procedures is necessary, for an overemphasis on either can pose a distinct hindrance to implementation. If goals are exclusively espoused, the problem of orchestrating means is left unresolved, with a subsequent failure of implementation; and if means usurp the place of goals in one's priorities, then ends may be dropped or compromised in behalf of the most comfortable and rewarding procedures. The jockeying for position between operational and consummatory incentives in the process of "mutual adaptation" is a central problem of KU, a problem that entails maintaining fidelity of <u>goals</u> while allowing adaptation of <u>procedures</u>.

With these reservations in mind, it is worthwhile to consider briefly some of the findings reported about the attributes of new

products or practices that function as incentives/disincentives.

Rogers and Shoemaker (1971:139-144) conclude that perceived relative advantage is positively related to adoption among farmers, and Paul (1977:51-52) cites several studies that purport to demonstrate a similar relationship with implementation among educators. But to say that some form of perceived relative advantage encourages KU is to assert that men are not wholly irrational, and very little else. The real question is what are the specific features, or combinations of features, distinguished according to operational or consummatory relevance, that are perceived as contributing to relative advantage? This, of course, is one of the key questions of the present paper. And unfortunately, the extant reviews of research on innovation attributes are of little assistance in answering it.

An operational disincentive for KU that has consistently turned up in research is the complexity of an innovation (Paul, 1977:51-52; Giacquinta, 1973:182; Fullan and Pomfret, 1975:79-80; Alan and Wolfe, Jr., 1978). A complex innovation tends to involve structural changes that threaten authority structures and administrative or classroom routines; the goals of such change efforts tend to be vague; the risk of ultimate failure is higher; the procedures for carrying out the change effort might lack explicitness, and indeed might require local invention; staff members might feel inadequately prepared to cope with required changes in role performance or authority; the requirement that staff work together might destroy the task autonomy and low visibility of classroom teachers; the required

time and effort for implementation might be exhausting; the requirements of evaluation might add to the burdens of implementation; and so forth. All of these disincentives are probably associated with complexity.

Here, for example, are some highlights of Charters, Jr. and Pellegrin's (1973) study of the first year of Differentiated Staffing in four schools:

> . . .uncertainty regarding the task at hand, lack of decision-making structure, and competing time of normal duties. . .another big problem — figuring out how to work in concert with other teachers in conducting day-to-day instruction. . .ambiguity reigns as to where responsibility lies. . .Beginning as early as the second or third month of the school year, outside evaluators start to appear. . .gross unclarity in conceptualization and definition of what the schools are attempting to implement. . .the apparent assumption that schools need little additional resources. . .The timing of pivotal decisions that affect the shape of next year's instructional program is strongly out of phase with the "experiment". . .

Here we have all the ingredients of a highly complex change effort, and the implication for incentives is clear. As the researchers note: "For some, the costs of participation (mainly in terms of diversion from their core teaching responsibilities) begin to outweigh the benefits, especially as they see the months wear on and the staff unable to move in a consistent direction." (p. 9)

If complex innovations that have been externally conceived are pursued with any persistence, it appears that they are in effect <u>redesigned locally</u>. This was clearly revealed in Charters, Jr. and Pellegrin's study, and has been confirmed by Greenwood, <u>et al</u>,

(1975:29): "The most extensive mutual adaptation took place on projects, such as open classroom projects, that were highly complex, relatively unspecified is terms of treatment, and required a significant amount of change." Ironically, then, the more ambitious and organizationally complicated an innovation invented outside the school, the greater the number of alterations made to suit local interests and constraints.

One means of reducing the operational disincentives of complexity is to build sequential divisibility into the innovation. This design feature seems to afford an opportunity to control installation, and to adapt the new practice to local needs and constraints without sabotaging core objectives. Yin (1976:75), for example, found that the extent to which an innovation was divisible for testing on a limited basis was strongly related to a combination of incorporation and service improvement. And Rosenblum and Louis (1978:265) found that the phasing-in of a project was a significant factor in successful implementation. Making explicit provision for sequential divisibility in the design and procedural specifications of complex innovations would in all likelihood facilitate this process.

A note of caution: the concept of complexity has not been well specified. Berman and Pauly (1975:17) discerned three "aspects" of complexity: structural ("spanned many grade levels or tried to include all classrooms in particular grade levels"); treatment ("involving a comprehensive area of curriculum or requiring an overall

change in teacher behavior"); and integration into on-going activities (either schoolwide or at the classroom level). The first two aspects refer to organizational and substantive or behavioral scope, respectively, while the third refers to the degree of required integration with on-going activities. The first aspect is mainly a function of implementation, while the other two are design features. That these aspects may not be parts of the same concept is suggested by the finding that the second definition (substantive or behavioral scope) is positively related to change, while the others are negatively related to change (Berman and Pauly, 1975:17). Greenwood, et al (1975:16) assert that the degree of integration among the activities constituting an innovation is a measure of complexity. Paul (1977:51) defines complexity as "the degree to which an innovation is perceived as difficult to understand and hard to use." He thereby includes implicitness or communicability as part of the concept, a practice that is also found in Zaltman, Duncan, and Holbek (1973:38-39). In addition, he includes problems of implementation as an aspect of complexity. Finally, we note that Rosenblum and Louis (1978:166-167) refer simply to "scope" of an innovation as implemented and omit "complexity" altogether, a definition that recalls the first aspect of Berman and Pauly (supra).

One source of conceptual ambiguity here is the confusion between the design attributes of an innovation and its actual

implementation. An innovation may be complex in terms of its absolute qualities (e.g., differentiated staffing) or in terms of the way it is implemented (e.g., number of schools or grades involved, efforts to integrate it with on-going activities). That the implementation of an innovation entails unintended effects in addition to, or in lieu of, the intended effects stipulated in its design is another reason for making this distinction very clearly. Further, both the design and implementation dimensions may be subdivided according to outcomes and operational attributes (or input), either of which can be characterized by complexity. Outcomes refer to scope of influence (numerically or qualitatively) and input refers to such things as number and structure of new resources required, and communicability of the idea or values behind the innovation. These latter, incidentally, suggest still another dimension for subdividing complexity: conceptual vs resource complexity. And finally, one should keep in mind that complexity may be objective or perceived. The former is determined by independent observations based on standardized criteria, while the latter depends on how the innovation is seen by the target system. Since complexity seems to to one of the most significant attributes of an innovation, it is time that we paid closer attention to its distinct dimensions. Otherwise we will never be able to learn how different types of complexity influence one another, or what specific aspects of complexity affect adoption and implementation.

Another attribute of innovations needs to be briefly examined because of its frequent mention in the literature: compatibility. This concept as defined by Rogers and Shoemaker (1971: 145) includes compatibility with "sociocultural values and beliefs," with "previously introduced ideas" or "past experiences," and with "client needs." It would appear, however, that the last meaning is simply another way of expressing perceived "relative advantage," since anything that meets a need is obviously better than pre-existing ways that left the need unmet. This leaves us with sociocultural, technical, and experiential compatibility.

The meaning of compatibility in these latter respects is still a large and complicated issue, since it refers to past and present aspects of the social and technological systems of schools, the values and experiences of organizational members, and sociocultural features of the community. New practices that are "incompatible" with any of these features are likely to be rejected, according to Rogers. Thus, even after eliminating the aspect of client needs, we have an uneasy sense that the concept is altogether too broad or vague to be of much value. Of course, it might be construed to indicate simply foreignness or radicalness of a new practice, product, or idea. But then we arrive at the rather banal proposition that the more foreign an innovation to the client system, the less likely it is to be accepted or implemented.

To avoid this trap of banality, it is necessary to realize that compatibility really refers to the <u>consequences</u> of an innovation for

different facets of the client system, and not to an absolute feature of innovations. And if we bear in mind the distinction between intended and unintended consequences, then incompatibility refers to unintended consequences that serve as disincentives for KU, while compatibility refers to the absence of such consequences. Carlson's (1965) study of programmed instruction, for example, discovered a number of unintended consequences that served as disincentives for teachers. Programmed instruction made it too time-consuming to work with individual students, the teachers did not know what to do when a student finished ahead of the others, it was burdensome to develop new materials for the programmed format, the opportunity for teachers to "perform" or control tasks was destroyed, and so on. In short, role efficiency, classroom autonomy, and pride of craft were unintentionally violated by the innovation, producing powerful disincentives for implementation. This seems to be a more fruitful analytical approach than simply observing that the innovation was "incompatible."

It would be interesting to study such effects in relation to the various absolute properties of an innovation — its resources, technical demands, scope, explicitness, implicit values, and so on — and also perhaps in relation to gestalts of these attributes as perceived by school personnel. In any case, it is clear that compatibility is not an attribute in the sense of a self-contained property, but an assessment of effects on the multifarious parts of the target system. Positive or negative consequences for a client's need is only one of these effects and, as already noted, is covered

elsewhere under the Rogerian rubric of "relative advantage." Many other kinds of effects occur, and any of these might entail or threaten to entail deprivation of some sort. This is an extremely important point for researchers to bear in mind. Because the goal-oriented nature of our interest in planning for KU tends to restrict our attention to the assessment of consequences for cherished goals, we overlook the vital importance of assessing second- and third-order effects on a wide spectrum of system attributes. Concepts such as "compatibility" and "relative advantage" offer little assistance in this task because of their broad, ambiguous, and overlapping meanings.

Concern with the unanticipated consequences of KU does not stop at identifying negative outcomes, but can shed light on positive outcomes <u>apart from</u> success in achievement of explicit goals. Such outcomes may be more important than those intended. In fact, while the effects with respect to goals may be detrimental, benefits for other parts of the system might override such outcomes and cause the intervention to be perpetuated. The experience with tracking affords a good illustration. Although tracking has the unanticipated consequence of being harmful to less academically able students (Persell, 1977:92-98), it is perpetuated because of its unanticipated benefits for staff (although in some cases one suspects that these benefits were not altogether unanticipated). What apparently happens is that pressures on teachers to

devote equal instructional effort to the less able are removed when these students are segregated. Thus, teachers are relieved of the burden of trying to make the poorer students keep up with the better students, with detrimental outcomes for the less able that have been thoroughly documented. In sum, the innovation of tracking yields "relative advantage," but not in the way that many of its advocates desired or anticipated. The conceptual apparatus implied in the study of unanticipated consequences, then, provides a common denominator for analysis of both "compatibility" and "relative advantage," and offers far greater flexibility than either of these concepts.

Neglect of the intricacies of diverse program outcomes in the study of KU is largely owing to the failure of our evaluation designs to incorporate a focus on unanticipated consequences. Nor is it necessary to abandon the study of goals to redress the imbalance, as urged by Scriven (1967). Elsewhere I have offered some general guidelines for the identification and conceptualization of unanticipated consequences without abandoning an awareness of goals (Sieber, 1979:47-48). In the absence of some such procedures, our knowledge of the incentives/disincentives for KU will remain scant, and the express interest of evaluators in the study of unanticipated consequences will continue to founder in the rhetoric of good intentions.

To be sure, a number of writers have sought to characterize innovations according to different classes of outcomes (Zaltman,

Duncan, and Holbek, 1973:31; Havelock, 1969:8-46; Pincus, 1974:117), but none has done so in terms of unanticipated consequences for incentive systems. The reason is that these outcome taxonomies are implicitly inspired by a managerial, goal oriented perspective. Thus, in looking them over we assume that the writer is concerned with intended outcomes for organizational structure, resource mix, skills, etc. In short, these taxonomies do not present a psychographic map of alternative human responses to KU, but a managerial map of limited policy alternatives.

This is not the place to review the research on all of the attributes of innovations that might serve as incentives/disincentives for KU. This has been done by Zaltman, Duncan, and Holbek (1973:32-50) and Rogers and Shoemaker (1971:137-157). It is noteworthy, however, that these reviews of research rarely refer to studies of <u>educational</u> innovation. This could be due either to the provincialism of the reviewers or to the rarity with which such studies have been made in education. We suspect that the latter is the case. When Zaltman, Florio, and Sikorski (1977) turned attention to educational change and discussed attributes of innovation, for example, they cited only a single study of schools. Fullan and Pomfret, 1975, cite case studies of schools, but discuss only two attributes of innovations: complexity and explicitness. Despite the assumption that innovation attributes are a highly influential factor in educational KU, the data base is surprisingly thin.* Moreover, the one systematic study of which I am aware failed

* The best discussion of educational innovations remains that of Miles, which is now some fifteen years old (Miles, 1964).

to confirm the relationships reported by reviewers of non-educational innovations. In a study of the effects of relative advantage, compatibility, complexity, trialability, and observability on adoption, Allan and Wolf, Jr. (1978) found that only perceived complexity yielded the expected relationship. (Two sub-attributes of relative advantage were also predictive of adoption, however: "money saved" and "popularity increased.") In short, we seem to be far from having resolved all the questions about the influence of innovation attributes on adoption, much less on implementation and continuation, within the sphere of public education.

In addition to looking at gestalts and interactive effects of innovation attributes, as suggested earlier, we need to overcome a tendency to think of innovations as definitive, objective <u>things</u> that maintain their nature and form over time. This misapprehension seems to underlie Zaltman, Florio, and Sikorski's (1977:41) concern with the relative importance of distinct attributes in the course of adoption and implementation. They suggest, for example, that communicability might be critical at the "awareness" stage while compatibility might become more important at the "attitude" and "legitimation" stages. Likewise, at the "trial" stage considerations of reversibility might come to the fore; at the "evaluation" stage, scientific status, pervasiveness, efficiency, etc., become major concerns; and at the "adoption" and "resolution" stages, costs of initial and sustained implementation become most salient. They offer no evidence for this sequence, however,

and it is hard to believe that school personnel actually behave this way. It seems more likely that a new practice or product is subjected to redefinition almost as soon as one becomes aware of it, that is, personnel examine it with a view to adopting certain parts, modifying others, and eliminating still others, and of mixing the new practice or product with current practices and common knowledge. (The RDU case studies by Abt, forthcoming, give ample confirmation of this tendency.) The "innovation," then, changes over time as it interacts with local perceptions, needs, social pressures, other practices and information, and structural constraints and opportunities. "The definition of what the innovation is," as Fullan (1979:7) puts it, "depends on the stage of the implementation process and is open-ended, although it can be described at different points in time." In sum, the conception of an "innovation" as something that enjoys a kind of tangible immortality precludes attention to its inevitable sea-change in the minds and in the hands of school personnel.

What <u>does</u> need examination are the various incentives/disincentives that come into play over the life cycle of a change effort. At the initiation stage, some notion of relevance and operational incentives such as non-disruptive implementability, student popularity, and availability of resources might be important. At later stages, the operational incentives of interpersonal collaboration, administrative support, and adaptability might come to the fore; and eventually, such incentives as task/role autonomy and task-environmental feedback might arise. (It will be noted that these concerns are far broader and more varied than those mentioned in Hall's (1974) Concerns-Based Adoption Model, which focusses exclusively on <u>the</u> innovation.) ——————→

This waning and waxing of incentives/disincentives is a feature of a change effort, of which the "innovation" is only one part. Those innovation attributes that emerge might also serve as incentives/disincentives, but other elements of the situation are at least of equal importance. What these elements are can be ascertained only by examining the teachers' appraisal of their total situation over time without assuming that there is an innovation with inherent attributes.

In order to broaden our perspective to encompass change efforts as such, let us turn our attention to a third kind of externally generated knowledge: approaches or strategies that are intended to facilitate planned change within local settings.

While our data base for the assessment of such approaches in terms of incentives/disincentives is severely limited, it is possible to offer some generalizations. In the first place, it seems that the sheer merit of such approaches (i.e., their rationality, sequencing, importance of objectives, etc.) is no more likely to influence adoption and use that is the case for information and innovations. A summary of an evaluation of PIPs (Program Information Packages), for example, which were developed under USOE sponsorship as a set of autonomous management guidelines for local districts engaged in planned change, states the outcomes as follows:

> The evaluators recommended that the concept of a self-contained, stand-alone package be given serious reconsideration. The PIPs were found to be useful communication devices for certain "pullout" programs that call for

> highly specified resources and easily understood procedures. To the extent that innovations targeted for dissemination required significant organizational or behavioral change on the part of users, however, the PIPs were less effective. The one program that called for use of a combination of highly innovative methods (open classrooms, learning contracts, gaming and simulation) encountered major problems at each site where it was used. Further, it was concluded that the PIPs cannot disseminate themselves; an intermediary is needed to publicize them to LEAs and to generate interest in using PIP among LEA personnel. Finally, the technical details communicated via the packages were found to be only one element of the support LEA personnel needed in attempting to install a new program. (Emrick and Peterson, 1978:27)

The Rand studies reached almost identical conclusions about packaged approaches to planned change. An additional point made in these studies is that ". . .even were packages to increase the efficiency of implementation, they seem to pose a severe problem for continuation, by depriving the staff of a necessary sense of ownership of the materials." (Berman and McLaughlin, 1978:27) This unanticipated consequence points to the deprivation of task/role autonomy as a disincentive for continuation.

A more traditional means of facilitating KU is training in the implementation and use of new practices. Yin (1976:126-127) found that practitioner training was one of the ten most important attributes of change efforts in the prediction of both incorporation and service improvement in several types of state and local service agencies. (This finding is all the more interesting in view of the fact that recruitment of new personnel to these agencies, which is usually regarded as a functional alternative to training, was negatively

related to incorporation (p. 122).) Unfortunately, Yin does not tell us about the aspects or types of training that were most critical.

Berman and Pauly (1975:60-61) offer some provocative findings on this score. They found that staff training in new educational practices was related to teacher change, but that it "did not significantly increase perceived success and tended toward decreasing success [of implementation] in elementary schools." This discrepancy between impact on teachers and influence on implementation was explained in terms of frequent irrelevance of training to applications of the new methods in the classroom. This interpretation was reenforced by the finding that if staff meetings are held in conjunction with training, both perceived success and fidelity of implementation are increased. In short, it appears that the relevance to classroom applications is enhanced by being linked to regular and frequent meetings of the project staff. This suggests that the operational incentives of perceived relevance and ownership of training through participatory planning and feedback sessions play a decisive role. (And since payment for undertaking training was unrelated to perceived goal achievement and to teacher change, it seems clear that performance related incentives are more important than material incentives.)

It should be borne in mind that training, like any form of participation in implementation or change, can cause teachers to fall behind in their regular work and interfere with ordinary performance

satisfaction. In addition, it strongly implies that staff members are lacking in professional know-how. Thus, training automatically poses certain disincentives. Further, the solution of offering opportunities for participation in decision-making and clear relevance to classroom problems is deceptively simple. For effective in-service education requires a great deal of planning, coordination, organizational support, follow-up assistance, and personal commitment by the participants.

In a recent review of research on in-service education, Fullan (1979:6) offers the following summary of findings:

> We know that most current in-service work is ineffective because it is frequently based on single shot workshops involving large or in any case undifferentiated groups of teachers, provides limited time for teachers to learn, has little evaluation or practical follow-up support, and is not linked to particular classroom problems. Correspondingly, we also know that the majority of teachers desire more in-service activities, if they can participate in identifying the objectives, and in planning and choosing in-service activities; if the program focus is practical and classroom/school specific; if fellow teachers and local consultants are used as resource people; if the conditions (e.g., time) are conducive to learning; and if there is some direct follow-up and support for facilitating the application of what is learned.

But Fullan then goes on to point out the difficulties of deriving lessons for the design of in-service programs from such findings. He refers to the fact that participation by staff representatives does not touch the commitment of the rank and file; that skill in collaborative decision-making is lacking; that it is difficult to take time away from classroom teaching; and that the need for a "conceptual framework" for re-socialization of teachers is often overlooked. In

general, the problem is to launch programs that are long-term, backed by external and internal resources and assistance, adaptive to different stages of a change effort, and geared to a set of explicit goals and related procedures with which personnel are gradually indoctrinated.

We may conclude, then, that effective in-service training requires complex internal planning, re-socialization, and external organizational support, requirements that are basically disruptive of routine, individually burdensome, and commitment-intensive. In view of these severe disincentives, perhaps the most promising incentive is a self-defensive one: avoidance or alleviation of the frustrations and other costs imposed by complex change projects. As seen earlier, complex innovations pose a number of knotty problems that often cause their doom. In-service education might be regarded as a pivotal experience under such conditions if geared to alleviating the disincentives faced in the installation of a complex innovation. In short, the complexities of training might be embraced only when the complexities of a change effort demand them. This conclusion is bolstered by the finding that relevance to classroom change efforts is one of the outstanding incentives for engagement in effective in-service education.

Another change effort strategy that is often referred to is the "problem-solving model" (Havelock, 1969; Yin, 1976; Paul, 1977). Despite its popularity as a promising approach to KU, however, there has been little opportunity to study its systematic application in

education. This shortcoming is being remedied by an evaluation conducted by Abt Associates, Inc., of the R&D Utilization (RDU) Program of NIE, and a preliminary analysis of eleven case studies by this project is worth summarizing. But first, it is necessary to say a few words about the problem-solving model itself.

The model stipulates a sequence of at least four major steps: needs assessment (or problem identification); a search for a solution; a selection of a solution; and implementation, including some training and monitoring. Each of these steps entails collaborative decision-making by a problem-solving team. Also, external and internal resources are supposed to be consulted at the search stage; and the final selection of a practice or product is to be made from a wide range of options according to explicit criteria laid down by the problem-solving team. This is the ideal model. Now let us see to what extent it was complied with by schools that undertook to install the model in several parts of the country.

According to a preliminary analysis of case studies (Sieber, 1978), considerable deviation from the model occurred in all stages, and especially with respect to selection of a solution from an array of options. The search process, which was conducted by external retrieval personnel, conformed most closely to the model in its effort to generate an <u>array</u> of options that was relevant to the client system's problem. But despite the search procedure, a selection was often made without reference to the search. What occurred

is that school personnel preferred to select a solution from familiar, interpersonal sources — a teacher in a neighboring district, a professor of education who had taught local personnel, a SEA (State Education Agency) consultant who happened to drop by the school one day, and so on. Thus, the model broke down in two ways. Each step was only partially carried out, and the ideal sequence of steps was interrupted by choice of a solution either before options were known or in spite of the meritorious options that were already in hand.

Of course, these departures from the ideal could be viewed as necessary "adaptations" of the model to local circumstances (most notably, the local circumstance of a desire for ownership of a solution selected from non-threatening sources). And indeed, we find that schools that did not comply with the rational selection requirement were somewhat more likely to implement their chosen solution than those that did comply. But this is not the case with respect to needs assessment and training: in both cases, compliance with the model was related to implementation, and this was especially true of training. (The strong relationship between traning and implementation was probably due to the obvious relevance of the training to a particular product or practice to be applied in the classroom).

What we seem to be left with is a model that tends to foster need-identification and implementation, but that is unable to control what is implemented. What was generated by the problem-solving

process was a commitment to change with reference to felt needs, but without reference to a range of relevant, available options, which was another component of the model. One might say that local operational incentives pushed consummatory incentives out of the picture inasmuch as the ultimate goal of implementing "the best possible solution" was jettisoned in the heat of a too hasty adoption process. In this sense, then, one might speak of the model as being self-defeating. (These conclusions should be regarded as tentative owing to the preliminary nature of our analysis. Further examination of the Abt data is necessary to give them a definitive status.)

One final observation based on the Abt data is in order. The problem-solving model shares with in-service education and major innovations the disincentives of time demands, organizational risk, and so forth. And also like these other forms of knowledge, and maybe precisely because of these disincentives which they share, <u>administrative support</u> becomes a decisive factor. The two schools that ranked highest on implementation had very supportive administrators with good faculty relationships; the two that ranked moderately on implementation had a passive and a dictatorial administrator; the five that ranked low had four passive and one dictatorial administrator; and the one that aborted the project altogether was rife with teacher-administrator conflict. The lesson could not be clearer. While administrative support as an <u>internal</u> source of KU incentives will be discussed more fully later, it is

important to consider its implications for the findings of a relationship between model change efforts and implementation. For it is quite possible that such a relationship is spurious: administrative support might account both for implementation of a change approach and for implementation of a practice or product. Thus, a particular change approach and practice/product implementation might occur in the same setting, but independently of one another. Alternatively, a causal relationship might exist, but might depend on administrative support that ensures follow-through. An answer to this type of question must await more refined analysis of the sorts of data being collected by the Abt evaluation project.

A valuable source of information about the most effective features of another well known change strategy imported from the outside — Organization Development (OD) — is a recent systematic review of research by Fullan and Miles (1978). They assert that "the key components which characterized OD consisted of efforts which involved planned change, long range attempts at improving the quality of life of individuals, improving group and organizational processes and organizational performance, or productivity usually with the assistance of internal and external change agents, and involving the use of behavioral science concepts and techniques in a reflexive, self-analytic way" (I-4). They list the most effective features mentioned in prior reviews of OD as the following:

- support and specific involvement of top and lower level administrators

- use of internal agents using external resources in a proactive way
- survey feedback and/or other organizationally focussed efforts rather than lab training or small group work
- focus on specific problems rather than general ones
- participative and collaborative modes of intervention
- long term (2 years minimum)

It is noteworthy that, with the possible exception of OD's long term nature, these predictors of success are the same as those associated with the adoption and implementation of new classroom practices and in-service education programs.

Fullan and Miles' systematic examination of case studies tended to support these conclusions of past reviewers. In addition, they emphasized that programs must be "task relevant, practical in the short run, and . . . not . . . unduly costly in time or money." (I-5) More important, they found that a high level of commitment was needed, and that understanding of the values and conceptual bases of OD was far more critical than use of technologies and techniques. Also, more structured and system-oriented programs were found to be more successful than those that concentrated on personnel training, and especially if they had an "educational emphasis." What do these findings imply about the operational incentives/disincentives posed by OD?

First, once again it seems that practical relevance to systemic problems and to the daily interests of school staff is highly important. Also, some sense of control over the OD process (as

suggested by the value of participative modes of intervention and internal agents) seems to be an important motivator. On the other hand, it seems that OD tends to pose the disincentive of conceptual or philosophical implicitness, or lack of communicability. "Many activities that are labelled OD . . . did not meet the definition of what OD is supposed to be," they write (I-4). "Simply put, many activities which are called OD are not really OD at all . . . many of the definitions of OD were general and tended to mask the complexities, specific components and dilemmas involved in its use." This attribute, they note, has created confusion and given the impression that OD is "superficial or irrelevant." Another possible disincentive is that at least two years should be invested in an OD intervention, which requires a sustaining of interest and participation that might interfere with other activities, and also entails deferment of goal achievement. In sum, OD seems to pose the serious disincentives of lack of explicitness and lack of immediate rewards for attaining simple, practical objectives.

These disincentives might account for Fullan and Miles' conclusion that successful OD requires a high degree of commitment. Indeed, the precondition of commitment underlies what Runkel and Schmuck (1976:13) call the essential condition of "readiness" for OD:

> Our evidence indicates that success in OD consultation in facilitating structural change is strongly influenced by the social-psychological readiness of the client organization to change. Readiness is greatest where openness of communication is valued and communication skill

> is high, where there is a widespread desire for collaborative work, where the administration is supportive or at least not negative toward the intervention, where there is a good agreement at the outset of the educational goals to be reached by restructuring, and where the staff does not have a history of one "innovation" after another that has failed to produce rewarding outcomes.

Fullan and Miles (p. 18) take note of a common criticism prompted by this conclusion: that the people who need OD most won't accept it. But they dismiss this criticism as "the usual cant" on the grounds that only schools that are "totally change-resistant" or "really weak and crisis ridden" are unready for OD. But given the high failure rate of OD (about 50% of the programs) and the critical role of staff commitment in ensuring success, one is tempted to conclude that a sizable minority of schools must be unready, that is, "totally change resistant" or "really crisis ridden." This is a little hard to believe. What seems more likely to us is that the fault lies within OD and not within the schools.

This brief look at OD leaves us with two nagging questions. If the disincentives for participation in OD (e.g., fear of penalties for open communication, for interdependence, for participative management, etc.) are precisely what OD is supposed to alleviate, then what hope is there for diffusion of OD? And if OD itself is defined as promoting readiness for productive change, are not OD experts implying that what we now need to do is to promote readiness for readiness?

A practice that is nowadays associated with most model approaches to change is participative decision-making. Since this practice is intended primarily as an appeal to the desire for classroom and organizational control over new activities (task/role autonomy, or "ownership" as it is often called), and since participative management is often introduced by administrators without external prodding, I will defer discussion of it until the section on internal sources of incentives/disincentives.

Now let us turn to external sources of incentives/disincentives other than those introduced by attributes of new knowledge.

Money and Its Costs

An inducement that has been assumed to have universal appeal is financial resources for the planning, implementation, or continuation of new practices, including model change approaches.* This incentive is offered on the twofold assumption that "organizational slack" (Cyert and March, 1963) is necessary for engagement in practices that go beyond maintenance of the organization, and that money is a provider of slack. What this theory overlooks is the fact that the "maintenance needs" of organizations (and perhaps especially schools) are extremely elastic. After achieving a certain minimal level of survival, such needs are socially defined by each organization in terms of the aspirations of personnel. Research by Janowitz (1971), for example, indicates that increased funds for urban school systems in the 'sixties was used to reduce class size rather than to introduce needed innovation; and the diversion

* This assumption is embraced by theorists no less than by policy makers. A computer model of educational change recently developed by Gaynor (1979) on the basis of an extensive literature review incorporates external funds as one of five major factors that foster innovation.

of federal funds for innovation to activities that are explicitly disallowed is well known. (Judging from experience with some schools, it appears that swimming pools are regarded as a maintenance need). In short, new funds will always be used to enhance "maintenance" instead of KU if there are activities that have higher priority than KU and that can be legitimized as maintenance. And that covers almost every activity of an educational system. The concept of organizational slack is itself rather slack.

The persistent priority of non-KU activities is reflected in Greenwood, et al's (1975:19), finding that exogenous funding not only attracts those who wish to solve a local educational problem, but those for whom "the dominant stimulant in local initiation of innovative projects is simply the availability of outside dollars." A desire to receive funds, moreover, was found to be no guarantee of KU. Indeed, as the researchers point out: "Projects generated essentially by opportunism were characterized by a lack of interest and commitment on the part of local participants — from district administrators to classroom teachers. As a result, participants were often indifferent to project activities and outcomes, and little in the way of serious change was ever attempted — or occurred." (pp. 19-20) Consequently, the amount of federal funds received by the projects was unrelated to project outcomes. Likewise, Rosenblum and Louis (1978:266) found that the level of funding for implementation among rural districts in the Experimental School Program was unrelated to the district's scope of implementation.

Further, there seems to be a negative relationship with continuation of project materials (Berman, et al, 1977:VII-74). This latter finding might have been due to the prohibitive expense of continuing a project after federal funds had been phased out. But it might also have been due to a tendency for material incentives to undermine performance motivation. Here we would do well to borrow a lesson from educational psychology. As Glaser (1978:36) points out in a recent review of behavioral modification theory: "Results obtained from research . . . indicate that giving a reward can have an effect counter to that desired; giving points, tokens, M & M's, etc., to a child for learning a lesson can decrease the intrinsic satisfaction of the lesson."

The prospect of losing federal support after a period of time can also deter many administrators from seeking funds in the first place. Thus, Pincus (1974:127) claims that "school districts characteristically refuse to use federal money as the basis for any substantial long-run changes in ways of doing business." While he does not offer any evidence for this assertion, clearly the short-term nature of federal funding might sometimes be a disincentive for KU at the outset of a change effort. In sum, while federal funds might be critical for start-up in some cases, they are irrelevant to implementation, and possibly detrimental to continuation.

Much the same conclusion was reached by Fullan and Miles (1978: 34-40) with regard to the adoption and use of OD (organization development) projects, a form of knowledge that entails process rather than practice. While they found that the amount of federal funds

was moderately related to impact, it was again slightly negatively related to institutionalization in those cases where the measurement of institutionalization was particularly clear-cut.

It is interesting that these findings are not restricted to the field of education. In his analysis of case studies of many kinds of service organizations, Yin (1976:139) found that the receipt of grants and contracts from federal sources was not related to successful outcomes. Further, he too found a negative relationship between overall federal support and incorporation (p. 140). Clearly, outside money does not guarantee success or insititutionalization of change. On the contrary, opportunism at the adoption phase, inability to pick up the tab at the incorporation phase (when federal funds are withdrawn), and the undermining of intrinsic satisfactions of KU might ensure failure and abandonment of KU efforts.

The converse of this conclusion is that local investment is related to conscientious adoption and successful implementation. But this relationship is more complex than might appear at a glance. As Mahan (1972:148) reports:

> It has been observed that the most effective installations of ERIE-supported curricula occurred in those school districts where local financial investment was heaviest (Mahan, 1970). When a new curriculum costs the local district little, several problems may occur: a less vigorous selection process for the innovation, an unhealthy dependency for problem resolution on the outside agency, minimal teacher-training and equipment replacement funds, or lack of a plan for assuming full fiscal support of the program. Polemni (1969) has documented the importance of local funds to the long-range success of innovative projects.

In such cases, then, money is not so much a cause of innovation as a symptom of genuine commitment, a commitment that is then reinforced by awareness of past local investment.

External funds have also been used in an effort to encourage school personnel to undertake special training. Mann (1976:327), found that extra pay was not a significant incentive to begin training, but that it could be a useful reinforcement to continue if institutionalized in pay schedules. Unhappily, however, receiving extra pay for training was not related to the following outcome measures: reports that a high percentage of goals were achieved, a change in classroom practices, improved student performance, and continuation of project methods or materials; and in some cases there were slight negative relationships (Berman, et al, 1977: VII-83). The researchers note:

> This finding lends support to the hypothesis that, especially for the small amount of financial incentives involved, intrinsic professional rewards are more important in eliciting effective teacher participation. A number of project directors have affirmed that although teachers appreciate the extra pay, the pay alone cannot induce teachers to work hard to implement new strategies if professional motivation is absent.

Money should not be thought of as a self-contained, independent inducement, for almost invariably its provision entails a number of obligations — for monitoring, for evaluation, for standardization of procedures and goals, for supplementation from local sources, and for continuation on local funds when federal money is withdrawn. In other words, the acceptance of external funds costs a good deal to local recipients. And any of the "strings" mentioned above can serve

as a disincentive for the target systems, either at the inception stage or at later stages of implementation. This is especially likely to be the case when local districts have minimal capacities for meeting federal standards that govern local expenditures. It is noteworthy, for example, that only a tiny proportion of rural school districts (4%) submitted Letters of Interest in the long term, so-called "no strings attached," financially generous awards of the USOE's Experimental School program.*

Red tape involved in the monitoring of government grants can make inordinate demands on limited administrative capacities in schools and districts, demands which can sap one's enthusiasm for the high hopes of a program in short order. When asked to signify how serious each of nineteen problems was in their schools, high school principals in a recent nationwide survey responded with greatest dissatisfaction to the item: "Too much paperwork in complying with Federal requirements." Forty-two per cent of the principals checked this single item as "serious" or "very serious" (Abramowitz and Tenanbaum, 1978). Indeed, widespread disaffection with Federal red tape among educators has given rise to federal legislation (HR 15 and S1753) to create a Council "replete with requirements for public representation among its membership, advance publication of items under consideration, and impartial hearings" (Goodstein and Goodstein, 1978:12). Under these bills research plans are subjected to review by public representatives appointed by politicians. In short, the disincentive posed by red tape has culminated in the threat of political control of research and evaluation in education that, although partly deserved, is frightening to contemplate.

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* In view of this feeble response rate, it is hard to understand how Herriott and Gross (1978:54) concluded that "the amount of funding to be provided over a period of five years appears to have been a powerful incentive to attract school districts to enter the competition." Is this a case of blind faith in money walking right past evidence of its ineffectuality?

Apart from the problem of paperwork, evaluation of projects can pose serious threats to local personnel. As Fullan and Pomfret (1975:119) observe: ". . .this very process of carrying out exhaustive research may interfere with the effectiveness of implementation by overburdening users, by creating feelings of being under a microscope, and so on." It is difficult for researchers and evaluators to empathize with these concerns. And while they might acknowledge the problem inasmuch as it biases the responses of personnel to measurement instruments, they rarely evince interest in its possibly deleterious affect on the program itself. Even formative evaluation that is undertaken primarily to assist program managers within the district is likely to arouse anxieties, as noted by Fullan and Pomfret (1975: 86). Unfortunately, these generalizations are based almost entirely on personal experience and anecdoctal materials. Systematic research on the unanticipated consequences of program evaluation on implementation is an issue that has been sorely neglected* It is highly interesting, moreover, that Yin (1976:141) did not find a relationship between federal support for evaluation of innovation projects and either service improvement or incorporation of the innovation across a number of fields (including education).

Added to the burdens and anxieties imposed on local personnel by demands for monitoring and evaluation of KU efforts are the unavoidable dysfunctions of federal bureaucracy, such as lack of flexibility in understanding or dealing with individual client systems, delays in response to needs and questions, turnover of key personnel, shifts in goals and operational patterns without adequate warning or explanation to grant recipients,

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* The obvious exception is the study of the Hawthorne effect. It is curious that the opposite effect of dampening commitment has not been given anything like the attention of inflating commitment, however. Recent experience with evaluation of the RDU project (Abt Associates, forthcoming) demonstrates that the former problem is at least as important.

and commitment to procedures regardless of goals. (For an analysis of how these problems severely undermined the commitment of local districts to the Experimental Schools program, see Kirst, 1978). Many of these problems are fostered by the context in which federal offices are imbedded, including political demands and agency constraints in Washington. The typical grant recipient is unaware of these forces, and consequently tends to view federal vagaries of policy and behavior as bordering on the demonic. In any event, the problems of federal program management yield a flood of disincentives for local districts to become involved in genuine knowledge utilization efforts.

A final irony of federal funding needs to be mentioned. As Sieber (1979:183) has pointed out with regard to social intervention in general:

> To encourage people to undertake difficult enterprises that offer only long-range gratification, it is of paramount importance to elicit a degree of fervid commitment that is almost bound to exceed the realistic prospects of success. The effort required to overcome obstacles in the course of implementation, therefore, is only tardily appreciated. If the rewards of such effort do not justify the investment of time and commitment within a certain period, the participants may grow cynical. They may turn against the goals of the innovation as hopeless and even reject the values that the goals symbolize.

The high hopes of federal educational programs in knowledge utilization, the "parade of reforms" that has marched forth from Washington, and the inevitable sense of failure and dazed tolerance of new "thrusts" have been commented upon by a number of observers (e.g., Herriott and Gross, 1978:295; Kirst, 1978:294). In many instances, participants who began with inflated hopes have become <u>less</u> rather than more committed to participation in educational reform. (See, for example, Corwin, 1973, on the Teacher Corps interns.) Here, then, is another managerial dilemma that must be confronted candidly by the agents of social intervention —

the choice between arousing the enthusiasm of grant recipients by raising their sights as high as possible (which serves the need for energetic commitment) versus counselling a cautious attitude toward change efforts together with a series of short-term goals that are easily attainable (which serves the need to prevent frustration and disappointment).

A major source of the unrealistic elevation of goals, of course, is political pressure to spread the federal largesse as fast as possible, and to concentrate on "backward" districts as a means of equalizing opportunity. Hopes of salvation are propagated, then, in the interest of political haste as well as out of naive reformism. With regard to the community control movement, Fein (1970) aptly refers to the typical American way of hasty reform: "We promise too much for each proposed reform, invest too little in it, and then profess disappointment with the results." On the basis of several studies of planned variation programs (Rivlin and Timpane, 1975 Lukas, 1975; and Cohen, 1975), Fullan and Pomfret (1975:107) concluded that the rush to obtain adoptions has three kinds of negative impact on implementation:

> First, the process of obtaining or determining acceptance by users is bypassed either because of lack of time, or because rejection or delay cannot be risked. Second, the urgency of getting programs into the field means that inadequate time is spent on specifying the operational implementation characteristics of the innovation. . .Furthermore, in the early stages of the planned variation programmes, implementation was not monitored, nor were there plans to increase degree of implementation of specific implementation components.

Fullan and Pomfret therefore conclude: ". . .the incentive system works against implementation." Moreover, the human costs of a "blitzkrieg" approach are high. "These projects experienced low morale, staff resentment, and even threats of mutiny in the first two years of project operation," according to Greenwood, et al, 1975:39. While the two projects in which this approach was used achieved successful implementation, "the human costs

of these methods led us to wonder whether such an approach to change was necessary."

A feature of the Experimental Schools Program demonstrates what can be accomplished by a more cautious management approach on Washington's part. The USOE initially funded school districts that were considered more ready by program managers, and only later funded districts that were regarded as risks. According to Rosenblum and Louis (1978:265-266), the first wave of schools was better able "to produce project plans, albeit after a number of painful iterations, which seemed to operate more smoothly as the basis of implementation." It thus appears that a careful review process can weed out the potential opportunists and premature applicants. The remaining applicants to such a program might be given special capacity-building funds and invited to reapply at a later time (as occurred to some extent in the State Dissemination Capacity Building program of NIE with the provision of funds for proposal writing and special purpose grants).

Coercive Power

Employment of the negative incentive of power has had mixed results. Despite the undeliberate speed of desegregation, it is true that many schools eventually complied with the 1954 Supreme Court ruling (after the use of bayonets in some places), and many no doubt tried out new practices as a consequence. But such massive authority is exercised only in the most extreme cases. The ideology of local and state control of education is strong, and even impedes the exercise of relatively mild forms of federal authority in connection with grant programs. The Teacher Corps, for example, was compelled to shift the lion's share of control over the interns to local agencies, and eventually to transfer responsibility for the program from the U.S. Commissioner of Education to local school systems and institutions of higher education. (Corwin, 1973:315) In addition to these shifts in formal authority, Corwin notes, "Teachers and principals used various means

to undermine the power of the interns, including stigmatizing them, isolating them within individual projects outside the classroom, co-opting the program through team leaders appointed by the school administrators, and replacing staff members who were sympathetic with the change objectives of the program." (p. 317) In general, the policy of the Kennedy administration of attempting to by-pass and wrest control from state departments of education, teachers' organizations, school administrators, and college professors led to widespread conflict and defensiveness. This reaction to federal power is a common one, of course, and is likely to be decisive when local officials are closely allied with congressmen, that is, when they have the means of combating federal power through the democratic process. For the most part, then, he who resorts to federal coercion to achieve knowledge utilization places his hopes on a slender reed. (See Berke and Kirst, 1972)

This does not mean that federal guidelines that are contained in a voluntary change program do not exert some influence. Thus, Berman and Pauly (1975:38-39) found that federal projects with the same substantive focus that laid down guidelines eventuated in certain uniform design decisions that were absent from those without guidelines. However, the authors point out that even this influence was only partial inasmuch as "the federal change programs did not greatly influence the design of such locally conceived projects as innovations in classroom organization. . .federal policy instruments of the type employed by the change agents program may have little influence on the frequency with which some types of educational methods, particularly classroom organization change, are initiated by the local districts in order to meet their own needs and priorities." Since it appears that

compliance with guidelines lasts only as long as federal funds hold out, money and its opportunistic appeal, rather than some fear of legal sanctions, seem to account for such compliance. In short, federal policy can buy limited compliance with guidelines; it cannot influence the design of methods that are based on local priorities and initiative.

Lacking the political muscle to enforce compliance with federal expectations, pressed by congress to distribute funds as widely and as fast as possible, and dependent on local educational officials — many of whom are former colleagues — for his own record of achievement, the federal bureaucrat is not eager to lay down the law to local and state education agencies. As Kirst (1975:468) has pointed out with respect to USOE officials: "Pay and tenure are secure and determined to a great extent by longevity. As a federal employee views administration, his incentives for favoring substantial change in educational approaches and practices are unclear. Consequently, there is a reluctance to confront state and local colleagues with whom he has built up 'good working relationships' over the years, especially if these colleagues do not want to conform to federal priorities or changes." Such factors often deter the federal official from using even what little power he has at his command.

The federal government is not the only possible source of coercive power over local educational reform, of course, but its role seems to be the most visible, the most studied, and the most criticized. State authority presents a complex picture, not only because of historical variation among states, but also because of the many legal and quasi-legal relationships between local districts and state agencies. Even here, however, power has its limits. The highly centralized legal authority over the curriculum found in a state like Arizona, for example, is described by two researchers as "a powerful but a relatively blunt instrument. The state legislature, the board, or the Department can squelch many local plans and policies, but it cannot effectively carry out its own policies without persuading local officials and educators of their value." (Block and Van Geel, 1975, cited by Boyd, 1978:604).

It cannot be denied, however, that a rather sharp instrument is the practice of mandating textbooks. In fact, the economic power that a few large states, such as California or Texas, can exert over changes in textbooks determines the curriculum of other states as well. As Black (1967:146) observes: ". . . it is possible for one state to determine the content of textbooks used from Maine to Oregon. And on occasion the state of Texas does just that." And Boyd (1978:610) argues, mainly on the basis of research by van Geel (1976), that ". . .state involvement in determining the school program has increased substantially in all states, both those that historically have had more authority in centralized state education agencies and those that have had more decentralized arrangements." In addition to the increased regula-

tory authority of the states (with the help of state assessment and accountability schemes), the courts and teachers' organizations have also exerted greater control over local education, including curriculum.

Ironically, one of the main pressures for greater state control over KU specifically has been the proliferation of federal dissemination mandates. Thus, the states have been obliged to centralize their dissemination capacity in order to coordinate their compliance with statutory requirements tied to a number of federal programs in education. This pressure has been one of the main sources of the State Capacity Building Program in dissemination. (For an inventory of statutory dissemination requirements, see Interstate Project on Dissemination, 1976.) Consequently, there has been a distinct shift in the authority for dissemination from the federal to the SEA level.* To some extent, intermediate service agencies have also benefited insofar as they provide a needed bridge between SEA and LEA, but the LEAs themselves have not gained any greater control over dissemination functions than in the past. Indeed, through such activities as certification and accreditation, the SEAs are enabled by centralization of dissemination functions to exert greater coercive control over KU in local schools. This use of power is even frankly recommended by the Interstate Project on Dissemination (supra, p. 45) as a major "incentive" for KU locally. And thus is the rhetoric of local control overleapt by the exigencies of bureaucracy.

* In the case of the State Dissemination Capacity Building Program, the NIE has deliberately adopted a "non-prescriptive management stance," with the not surprising consequence that the states have generally failed to comply with documentation requirements. (NTS, 1979: ch. IX)

The implications of these shifts in power for KU at the local district level need to be carefully assessed. Van Geel (1976:173) refers to "codetermination [of the curriculum] by state, federal, and local professionals with the local board serving as an advisory or sounding board" as the prevailing state of affairs. Local citizens who are not board members have undoubtedly suffered even greater diminution of authority, with a few notable exceptions of militant groups that have resorted to the courts (in connection with bilingual education or education for the handicapped, for example). And while increased teacher militancy might check the subversion of local authority by the states' accountability movement, unions might also press for more state mandated programs as a means of protecting jobs, as occurred in New York City a few years ago.

The report of the NIE Task Force on curriculum development (NIE, 1976) reveals a strong anti-federal establishment movement, as well as a great deal of competition among public and private organizations for a piece of the curriculum development pie. Unless the federal government is able to support curriculum development at the local level on a far more visible scale than at present, it is probable that agencies and associations in the middle range (between federal and LEA levels) will preempt curriculum decisionmin a political free-for-all that will be a credit to the present American penchant for special interest conflict, and not much else. I emphasize "visible" because, as Raizen points out (NIE, 1976:47), an analysis of federal funding would probably reveal that decentralized work already receives the lion's share of support, despite the protest

against centralized efforts expressed by numerous groups and agencies. And while the rhetoric of these organizations favors more control at the local level, the vulnerability of schools to political forces in the environment suggests that the middle-range agencies and groups will themselves gain greater control in the event of less federal involvement. Indeed, this is the avowed intention of some of these agencies. Ultimately, it might narrow down to a battle between SEAs and teachers' unions over the issue of accountability, with local educational needs being relegated to oblivion.

But regardless of the outcomes, these are some of the trends that provide the power context for future federal KU efforts. Coercion as a negative incentive might not be at the disposal of federal administrative agencies, but it seems to be increasingly at the disposal of non-federal agencies and groups involved in education.* Nor can one any longer assume that the exercise of formal power invariably poses disincentives for KU. Outcomes of State practices in mandating textbooks and special curricular programs give the lie to this widespread assumption. A sophisticated study of the emerging distribution of power over curriculum development in the nation, and the conditions under which political pressure and legal coercion are effective means for enhancing KU, would seem to be a worthwhile endeavor.

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* It will be interesting to see if the new Department of Education will stem or enhance this trend.

Higher Education

Turning from government as a source of incentives/disincentives, let us examine for a moment the role of higher education. A number of years ago Brickell (1961:19) made an observation that has been attested to by more recent commentators:

> College faculty members explained again and again during the survey interviews that they had experienced utter futility in equipping teachers with skills which were not needed or not wanted in the elementary and secondary schools in which those teachers subsequently went to work. Local community traditions, the accustomed ways of the existing staff, the attitude of the administrators — all converge upon the beginning teacher and shear off any college-taught skills which do not fit local patterns.

From the point of view of the teachers themselves, this means that courses in local colleges and universities are "irrelevant." Sarason (1971:166) observes that although the teachers he had studied were intellectually stimulated by courses, "they did not, or could not, see the relevance of these courses to their daily work in the classroom. . .as a group teachers have long been living with the knowledge that their college experiences were for the most part irrelevant to their work." Such observations strongly suggest that use of specific skills or information about teaching and learning is not influenced by the incentives for academic work traditionally supplied by higher education. However, there is an implication of Sarason's conclusion that needs to be carefully examined, namely, that being intellectually stimulated is "irrelevant" to teaching. This "enlightenment" function of higher education courses could be relevant in ways that are not so obvious, even to teachers themselves. I will return to this issue when I discuss enlightenment as an internally generated incentive.

As for in-service training, a recent review by Erickson and Rose (1976: 247) asserts, "Relatively few universities have accepted their responsibilities to develop programs of in-service training." ——————→

Similarly, another review declares: "It is estimated that fewer than ten per cent of the nation's schools have joined in partnership with college educators in a mutual cooperative effort toward change" (Butts, 1976:17). Some programs, however, such as the University of Oregon's externship in educational administration, award academic credit for dealing with specific day-to-day educational problems in association with consultants and peers, which suggests that academic incentives can be used to encourage knowledge utilization. And Guba and Clark (1976:IV-45) found in their survey of schools, departments, and colleges of education that an emphasis on new modes of teacher education, including field-based approaches, was projected for the future. They also found that there are "numerous service projects with schools in which faculty participate as part of their regular load, e.g., curriculum surveys, on-site workshops, etc., but the frequency of these faculty involvements with schools is lower than the individually negotiated ad hoc arrangements" (Clark and Guba, 1976:III-59).

A special feature of the academic community is the research and service (or "R&D") agency affiliated with graduate schools and departments of education. These agencies originated with the school efficiency movement of the early decades of the century; thus, the main goal of these early agencies was to provide a service, such as testing or school surveys, geared to improving the efficiency of schooling. The popularity of these services is attested by the rapid growth of research and service bureaus, and by the tendency for the service function either to jeopardize the research mission or to be split off into special agencies (Sieber and Lazarsfeld, 1966). "This was only natural," write Hjelm and Sieber (1967:90), "because the bulk of financial

support came from the state legislatures or directly from local school systems, and because daily requests from schools rendered genuine research efforts highly spasmodic and piecemeal." Not until USOE's Cooperative Research Program of the late fifties, together with the founding of R&D Centers in a few universities in the sixties, was the research function of these agencies placed on a more secure footing. But in the process, the pendulum swung from instant service to long-term research and development, and the dissemination and implementation function of these agencies was shoved into the background. Further, since their work was no longer dictated by school efficiency needs, but by the federal mandates and individual decisions of the agencies themselves, these new agencies held little inherent appeal to local administrators. Indeed, they seemed to provide more disincentives than incentives for KU.

According to studies by Baldridge, et al, (1974), the major stumbling blocks were: the Centers' violation of the status-norms of school personnel by their efforts to monopolize expertise; their duplication of effort in the field owing to lack of coordination among researchers; their lack of adequate feedback to R&D sites in return for the privilege of access to local subjects; and the feelings of anxiety and apprehension generated by evaluation projects. In short, the R&D Centers threatened to deprive school personnel of professional standing, continuity and efficiency of school operations, and a sense of accomplishment and status security — and all this without offering compensatory assistance or usable feedback. (For several possible solutions to these problems, some of which have been successfully tried out, see Baldridge, et al, 1974).

It is especially noteworthy that the rise of teacher professionalism mentioned by Baldridge, et al, might well supply positive disincentives for using knowledge from external sources inasmuch as teachers tend to prefer peer expertise (e.g., NDN practices, Teacher Centers, School Study Council practices, etc.). In short, owing to reenforcement of an autonomous professional self-image, teachers may feel more strongly than ever that what is not their own should be viewed with skepticism and implemented with grudging cooperation at best. As suggested earlier, positive disincentives are more difficult to overcome than negative ones since they are rooted in ideology instead of utilitarian or self-interested motives.

As mentioned by Clark and Guba (supra), the ad hoc consultative arrangement is the most frequent type of linkage with higher education found today. But the academic consultant has received a mixed press from students of knowledge utilization. The most frequent complaints focus on the academic's difficulty in grasping the special conditions of the local setting and communicating practical advice rather than abstract knowledge. More fundamentally, the academic expert may provide a disincentive for knowledge utilization insofar as his very presence implies that school personnel are an inferior breed despite their grappling daily with the problems of teaching and learning. Resistance or skepticism may be automatically triggered, therefore. (See Zaltman, Duncan, and Holbeck, 1973:86-87, for the threat of the outsider.) In addition, there is the implicit threat to task/role autonomy insofar as the client is not permitted to participate in the design of the proffered solution. No doubt these disincentives are the bases for Havelock's finding (1969:6-11) that a collaborative model is more conducive to knowledge flow than a buyer-seller model in which "the agent occupies the role of expert information giver or solution maker for a more

or less passive client organization."

Havelock's (1973:116) national survey of innovation casts considerable doubt on the impact of higher education consultants. Only two per cent of the districts mentioned university personnel as key participants in their "showcase" innovations. This amount of key participation was somewhat lower than that of parents (10%) and the school board (7%), and much lower than that of teachers (38%) and administrators (37%). Overall, university personnel participated in or were informed about the showcase innovation in only eight per cent of the national sample of districts.

Consultants and linkers in general

What has been said about higher educational personnel is probably applicable to all external consultants, since school personnel make little distinction among the institutional bases of outside experts. And as Berman and McLaughlin (1978:27) write with regard to implementation of federal projects:

> Project staff typically saw the assistance offered by outside consultants as too general, untimely, and irrelevant to the problems of their classrooms. . .most outside consultants had neither the time nor the necessary information to tailor their advice to the individual school or classroom. Furthermore, because the use of outside consultants typically involves considerable advance planning and scheduling, and because outside consultants are generally not available on an "on-call" basis, the help provided by consultants often cannot be delivered in a timely fashion, i.e., as problems arise during implementation.

Consequently, external consultants had only a marginal influence on the projects.* With regard to reading innovations, Wirt, et al, (1975:28-30), found that technical assistance was not useful because it was too academic, too remote ("never around when projects need them"), offered conflicting

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* For a similar observation based on evaluation of the Pilot State Dissemination program, see Louis and Sieber, 1979:162.

advice when there was more than one technical assistant, and entailed personality clashes with the project staff. Aggressive outsiders may influence the development of project plans if they have "very strong and explicit support and commitment from key district administrators" (Greenwood, et al, 1975:23-24), but otherwise their influence seems to be nil at best. Further, since it was the "opportunistic" projects in the Rand studies that tended to rely on outside developers and consultants (Greenwood, 1975: 22), the chief function of external assistance in such cases might have been to give perfunctory legitimation to efforts that do not enjoy high priority in the district.

A special type of outside consultant is the OD (organization development) expert whose task is to help school personnel to communicate clearly, to "build trust and increase understanding," to "involve more people in decision-making," to "create an open problem-solving climate," to "increase group effectiveness," and to "uncover conflict" (Schmuck, 1975:11). (This characterization of OD reminds us that the use of change strategies is also a form of KU that requires investigation.) In a recent, exhaustive examination of OD programs, Fullan and Miles (1978:III-33-34) found that the number of outside consultants was the single best predictor of "impact" (as measured by both anticipated and unanticipated outcomes), but that it was negatively related to institutionalization of OD. This latter finding is explained by the researchers as follows: "Excessive reliance on outside consultants seems to reduce ownership, hence institutionalization," a conclusion strongly supported by one of their case studies. The fact that outside consultants did influence short-term outcomes to a marked degree,

however, suggests that the supportive type of consultant associated with OD is more effective than the substantive expert who, as we saw earlier, tends to have little positive benefit. The goals of these two types of external consultants are different, of course; but this conclusion signifies that substantive experts might do well to include some human process skills in their kit bag.

Still, it appears that the insider is more critical for institutionalization of OD than the outsider. "In fact, given the more important role of insiders," Fullan and Miles (1978:III-52) conclude, "the role of external change agents should be directed at providing support and transferring knowledge, materials, skills, etc., to key insiders." In this way, it is hoped, a sense of ownership of the project will not be jeopardized and internal capacities will be fully developed. (We will say more about ownership as a key operational incentive later on.)

A third type of outsider is commonly known as a linker, or more traditionally, an extension agent. Since another paper in the present series is devoted to synthesizing research on external linkers, I will say only a few words on the subject at this juncture. Moreover, I will focus on the linker as generalist rather than substantive expert, and as a provider of information from centralized sources.

Apparently one of the most effective mechanisms for the stimulation of knowledge utilization in local schools, the external resource linker offers a personal, non-threatening bridge between a wide range of educational resources and practitioners located at all levels of the district. The disincentives posed by consultants (substantive experts) of status threat,

lack of human relations and diagnostic skills, narrow specialization, ignorance of local practices and norms, threat to sense of ownership, and lack of availability are overcome by linkers. For the latter do not pose as experts and employ human relations techniques in gaining access to and working with clients. Also, they utilize the broad knowledge base of retrieval systems and are familiar with local practices because of their location in the field. Finally, they are not identified as "owners" of the practices they bring to the attention of school personnel, and are readily available. They therefore pose a number of operational incentives. According to Sieber, Louis, and Metzger's evaluation of the Pilot State Dissemination project (1972: 535), resource linkers were not only effective, but tended to be more so than consultants working by themselves. Further, the evaluations of NDN (National Diffusion Network) and TAG (Technical Assistance Groups) cited "the charisma and enthusiastic leadership of the program advocate as the 'force' or incentive source that initiates local involvement and creates pressure to participate" (Emrick and Peterson, 1978:59). And the NDN study in particular has shown that resources that have been certified by a review panel <u>can</u> serve as an incentive for utilization if presented and facilitated by intermediaries who are not primarily substantive experts.

There appear to be two major features of the external resource linker that pose disincentives, however: <u>low communicability</u> of the role and <u>cost</u> of supporting full-time personnel. The first feature is a function of the role's unique location. A permanent boundary-maintenance role that serves as a bridge for the passage of external resources is difficult for

school personnel to comprehend, especially at the level of classroom teachers. But more important, the key feature of adaptiveness to client needs and settings means that any verbal definition of the role is inadequate and perhaps even misleading. (As mentioned by Louis in her paper on external linkers, preliminary results of the RDU evaluation indicate that linkers who had a title imposed on them were less successful than those who permitted the role to emerge and changed their title to suit individual circumstances. See also the problems of role definition encountered by the agents in the Pilot State Dissemination project, Sieber, Louis, and Metzger, 1972.) Since only personal experience with the resource linker can provide a basis for understanding the role poses distinct disincentives for adoption.

The second operational disincentive is cost. Full-time or even half-time personnel require salary, travel, and retrieval expenses that impose burdens on state and district budgets in the absence of federal support. Unless some arrangement like the U.S. Agricultural Extension Service is introduced, the future of linkage programs (almost all of which are currently supported by federal funds that are due to be phased out in a very few years) is highly uncertain. None of the Pilot State projects (Sieber, Louis, and Metzger, 1972), for example, continued with generalists in the field after termination of federal funding. Since linkers are literally a marginal feature (serving as they do as boundary-spanning personnel) of the states' marginal dissemination programs, their fate is virtually sealed.* Here, then, is a major disincentive for institutionalization of the role.

* This dismal prognosis has been supported by informal discussion with staff of NTS's current evaluation of the State Capacity Building Program.

Non-Academic Agencies

The external resource linker is only one feature, albeit conceivably the most important, of the knowledge delivery system that has emerged in recent years. The founding of ERIC Clearinghouses, State dissemination projects, exchange services among regional labs and centers, the National Diffusion Network, instructional materials centers, teacher centers, public and private information retrieval agencies, etc., has raised the question of which features of this delivery configuration are most attractive to school personnel.

As mentioned earlier, Hood and Blackwell (1976:VI-13) found that the paramount features of the sources of information most preferred by teachers and principals are: (1) perceived relevance ("is likely to have the information I want"), and (2) convenience ("is near at hand or accessible," "is easy to use," and "is usually available when I need it.") These attributes underscore the importance to school level personnel of sheer convenience as an operational incentive. District level personnel are somewhat less concerned about convenience and somewhat more so about quality ("authoritative, accurate, reliable"), a difference that is no doubt due to the fact that use of external knowledge is more expected of district staff. Teachers and principals are more preoccupied with "keeping school," and hence more willing to use whatever source of information entails the least effort.

This finding, incidentally, would seem to lend strong support for the use of external linkers with school level personnel, although current programs tend to favor district personnel. The reason given for serving district level staff, of course, is their greater authority to adopt and institutionalize new practices and ideas, and thus their greater

potential impact. But this assumption needs to be qualified. It is true that district level staff have greater formal authority to institute change; and that even when they do not actively endorse a major innovative effort, their lack of opposition can be critical. But it is equally true that teachers and principals have enormous veto power, can influence the district level when they combine forces, and have great freedom within their individual classrooms and buildings, especially in the use of information as distinguished from innovations. Thus, change of certain kinds can occur at the bottom, and might well have greater implementation success than if initiated from the top. Teachers and principals, moreover, have greater scope of impact than is commonly believed. Hood and Blackwell (1976:IX-14) reveal that other teachers and other principals are by far the most frequently used sources of information or advice. (Forty per cent of the teachers cited peers and 35 per cent of the principals did so.) This means that external information diffuses rapidly through the natural, informal network of peer relationships. And in fact, studies of linkage systems have shown that school level clients typically share their information with a number of others in their local sphere. Sieber, et al, (1972:I-526-527) found that about three-fourths of the clients of three state dissemination services discussed the information with others, and that more than half of these secondary clients were teachers (who were also the great majority of primary clients). Moreover, when asked to indicate the specific benefits that were derived from the information that was delivered to them, half of the clients mentioned "it gave me new resources for helping other staff members," a benefit that ranked second in frequency in a list of 14 possible benefits (p. 521).

In sum, the most common disincentives for teachers and principals of information systems — unavailability, difficulty of use — are overcome by resource linkage agents. And since school level personnel have consider-

able autonomy and interact frequently, managers of extension systems should not overlook their role as direct clients with a potentially wide scope of impact at the level of education that ultimately counts the most. That such impact may be slower in coming and less visible to evaluators does not mean that it does not occur.*

Another organizational mechanism that reaches teachers directly is the Teacher Center, which has been loosely defined as an arrangement for "providing local opportunities for teachers to exchange ideas, acquire new skills and further their development" (Miles, 1975:163). Despite great variation in emphasis, control, and autonomy, these units in principle at least offer a host of incentives for knowledge utilization that we have found wanting in other components of the sponsorship system. Unlike the R&D emphasis on quality and teacher-proofness of resources, the centers encourage adaptation of resources, and development and sharing of indigenous practices. Unlike pre-service and most in-service training, they offer peer teaching by practitioners, emphasize the day-to-day needs of school personnel, give teachers the opportunity to display their own ideas and practices, do not threaten to impose negative incentives (e.g., poor grades in education courses), and in general operate independently of the career interests of college faculty and the institutional constraints of higher education. Unlike consultation, there is egalitarian interaction among peers around practical issues of mutual concern, and emphasis on internalization of knowledge and "ownership" of materials, and timely accessibility to a range of human and material resources. And unlike various federal "thrusts," there is sufficient time to learn and to implement, an absence of close, formal supervision, an emphasis on adaptations of

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* If the many secondary clients of linkage agents actually benefit from the information that is provided, then Sieber, Louis, and Metzger's (1972:593) recommendation that one linkage agent be hired for every 300 potential clients is unnecessary. This is a matter that should be looked into very carefully in view of the prohibitive cost of full-time linkers.

external practices to one's setting, an absence of sporatic efforts at remote control by agencies with shifting or diffuse goals, and an absence of extrinsic incentives like money that invite exploitation by the administration for "maintenance." In general, then, the teacher center as an ideal (largely inherited from the British, incidentally) offers self-management, peer support, resources of high pertinence, and personal recognition in the eyes of significant others for exemplary task performance.

These inducements are all powerful, performance-related incentives. As Miles (1975:205) notes, "The attractiveness — and possibly the future viability of the teacher center concept — rests on its ability to tap into relatively deep personal motivational streams. Three can be singled out: need power, need achievement, and need affiliation." But as Miles is careful to point out, "there are no systematic, empirical data available on the actual person-changing processes or outcomes of teacher centers anywhere" (p. 206). Further, to change persons, even by ministering to an array of robust needs, is not to change the organization in which these persons are perforce embedded. Thus, the centers might raise expectations to a level that will cause an even greater sense of impotence and alienation than before.

Here, then, is another managerial dilemma for knowledge utilization. The institutionally neutral ground and personalistic emphasis of Teacher Centers is necessary to satisfy the need for professional autonomy and social support; but an understanding of organizational constraints and the development of skills for dealing with them might be necessary for fundamental and abiding change. Since these functional needs seem to conflict, an over-emphasis on either could be disruptive, and hence self-defeating.

An organization that we hesitate to include in our survey because of paucity of information, but which might well occupy a highly strategic position, is the intermediate education agency. The Pilot State evaluation of educational linkage agents concluded that these agencies were ideal bases of operation (in non-metropolitan areas at least), and several of the RDU case studies by Abt Associates (forthcoming) demonstrate their importance as a source of both technical assistance and social pressure for KU. Moreover, the State Dissemination Capacity Building Program (NIE) relies extensively on these agencies for contacts with local schools.

Such agencies offer several attractions. Being external to the district, they can provide the assistance of personnel who are not constrained by district loyalties and formal role obligations. And since they are outside of the centralized SEA (and many are independent of the SEA), they do not have the regulatory stigma of SEAs and are closer to local problems. In view of the large role that these agencies have begun to play in KU, and the great variety of approaches and structures represented, it is surprising that a major national study of their effectiveness and their needs has yet to be launched. Such a study might also include centers that are primarily devoted to retrieval and dissemination of educational information (SMERC, RISE), and also such well-known general assistance centers as the Network, so that a broad range of agencies can be investigated.

Finally, we arrive at an external source of knowledge that resides in the school itself — as neighbor, formal demonstration site, co-member of school study council or other consortium, or member of a diffuse, national

educational reference group. The communication network among local districts as conveyor or legitimator of new practices is a subject that is obviously too complex to deal with here. Nor does there appear to be any systematic data on this network. Glowing claims of success have been put forth by advocates of school study councils, but actual impact data is lacking. (And one wonders if national networks like NDN have undermined these regionally based arrangements.) Less formalized chains of influence are even more poorly understood. Still, it cannot be doubted that practices in neighboring districts play a substantial role in creating awareness of new knowledge and competitive pressure for adoption.

Thus, evaluation of the RDU project by Abt Associates (forthcoming) indicates that neighboring practices often take precedence over the options that ar provided .. by retrieval systems for solving locally identified problems. In fact, this tendency appears to be one of the main reasons that the model problem-solving sequence was seldom followed by the RDU sites, as discussed earlier.

The most elaborate, formal mechanism for demonstrating locally generated practices is, of course, the National Diffusion Network (NDN). And an evaluation of NDN concludes that "LEA visits to demonstration sites, which provide visible models and referents for the adopting LEA," was one of the significant determinants of effectiveness (Emrick and Peterson, 1978:35). The precise incentives that are posed by demonstrations are not clear, however. Whether they provide technical information, collective inspiration, a sense of operational feasibility, or "referent power" legitimation is unknown. (Since the NDN practices are also endorsed by a national panel

of experts, it is difficult to separate the legitimative influence of the experts from that of the local demonstration sites.) And finally, we do not know if there are incentives for site visits that are irrelevant to KU, such as the understandable desire to take a trip with all expenses paid.

Even more vexing than the lack of information about the appeals of demonstrations is the assertion by some researchers that demonstrations are often fruitless and can even pose disincentives for initiation of new practices. Based on experience with the diffusion of ten products and programs by the Far West Lab, Turnbull, Thorn, and Hutchins (1974:11-12) noted:

> The evaluation of these [demonstration] projects showed that most visitors commented favorably, but we found only one project that established a connection between demonstration and sales: Minicourse sales did cluster around the sites. In the case of the Toy Library, visitors said that their informational objectives had been met, but few adoptions could be traced directly to their visits.

The researchers believe that the way in which site visits are handled is what determines effectiveness: ". . .it is important to give site personnel training, suggestions, and support for their role as active disseminators." An alternative view is that the real incentives for making site visits are irrelevant to actual KU back home. Also, certain disincentives might be inherent in such visits. As Greenwood, Mann, and McLaughlin (1975:56) observe: "Visitors to a demonstration site seemed to feel threatened. They often saw the accomplishments of the project as 'overwhelming.' For example, visitors remarked that they couldn't imagine how the project could be carried out in their own district." Accordingly, these researchers recommend the "traveling circus" approach, which they say worked much better in the schools they studied. Mann (1976:338) suggests that since a visitation is an

acknowledgement of one's inferiority, more distant school systems might pose less of a status-threat to local personnel.

Perhaps the most critical condition for the success of demonstrations is the degree to which the host school has been internalized as a normative reference group. If there is strong social identification, then the host might not jeopardize the visitor's need for a sense of "ownership." In effect, ownership becomes shared by professionals with a common mission. But if the referent power of the host is weak, then the visitor is prey to the same sense of inferiority or lack of ownership that stems from encounters with R&D experts.*

In sum, it is premature to conclude that observation of practices in other school settings is a panacea. Incentives for participation are not clear, and thus it is difficult to know how, where, or when demonstrations should be run. But this question barely touches on the much larger issue of the structure of lateral relationships among local districts, and the influence of these relationships on KU. Much research could be fruitfully sustained on this issue.

Whatever the effect on visitors, demonstrations also need to be examined for their effect on the host agency. Since the structure of education in America does not provide recognition for the display of exemplary classroom performance (a point that I will say more about later), demonstrations might provide an important incentive for local knowledge development by placing exemplary performers in the limelight. No doubt this incentive has been an important element in the NDN program. And just as the use of external information often has ripple effects on colleagues, so might the development

* Because I am interested in demonstrations only in terms of the incentives/disincentives they offer, I have not dealt with the necessity for follow-up during implementation, which is underscored by House, Kerins, and Steele (1972). Obviously, demonstrations often fail to be effective because of barriers in the visitor's school.

of practices by school personnel. Also, it is likely that a good deal of KU occurs in conjunction with the local development of practices and products, and this might also have ripple effects. In any event, despite the well known travails of running demonstrations, the opportunity to gain recognition in the profession-at-large is probably a powerful incentive for local knowledge production and its associated KU activities. But again, this is only one small part of the broad issue of interorganizational relationships among schools and their role in KU, an issue that has been ignored much too long by researchers.

Summary

We have seen ample evidence that the RDD&E system poses disincentives as well as incentives for KU, with the former perhaps preponderating. In particular, the provision of certain incentives is cancelled out by unanticipated consequences that hinder KU, e.g., the inflation of expectations, the ancillary costs of accepting federal funds, the damaging "incompatibility" of certain features of otherwise meritorious innovations, etc. In large measure, these gaucheries of external policy are due to preoccupation with only a few putative rewards, such as the merit of new practices and products, money, accessibility to information, and the prospect of rational problem solving, rewards that comprise the technological perspective on KU. And they are perpetuated by the stern refusal to countenance the unanticipated consequences of good intentions. Further, while power may be useless to certain sectors of the RDD&E system (federal KU agencies), its significance as context for non-coercive measures and its

possible use as a resource elsewhere in the system has been overlooked. In short, as suggested earlier, imposed disincentives are not diagnosed, positive incentives are limited in scope, negative incentives are not exploited in a way that precludes rebellion, predispositions to embrace or to reject certain putative rewards are not taken into account, and the reasons that certain incentives often do work (e.g., relevance of new knowledge) and that others have only a middling track record (e.g., visits to other schools) are not well understood. If the RDD&E community devoted as much attention to measuring and controlling the unintended consequences of its activities as it gives to measuring and controlling the compliance of local educators with its intended consequences, it might stand a chance of salvaging the liberal interventionist dream. Otherwise, it will continue to be weighed in the balance and found wanting.

A corollary of the need to understand the disincentives and perverse incentives that flow from the RDD&E system itself is the need to understand the inducements and constraints on KU that emanate from the local system of education and its context. On several occasions I have indicated what some of these endigenous incentives/disincentives might be — for example, role efficiency, task/role autonomy, valued interpersonal relationships, and enlightenment. These need to be carefully considered in external planning for KU.

But before taking up the issue of internally generated concerns, we need to study the local context of education, which itself affords a cornucopia of incentives/disincentives for KU. This is a domain that has been much neglected, it seems to me. In fact, in many communities it is exceedingly hard to discern where the authority of the school ends and the

uthority of the community begins. Thus, analyses of educational systems that exclude community influences are superficial at best and dangerously misleading to policy makers at worst. Nor, as we shall see, is this oversight remedied by simply mandating "community participation" in the naïve expectation that all problems will thereby be ironed out without further ado by KU sponsors. And here again, perhaps, we detect the hand of the technological bias, a bias that relegates politics to a realm of irrational forces that has little bearing on the generation and application of the truth. If it is indeed the truth that is sought, then no assumption could be farther from it.

The Local Context of Education

The Market Structure and Competition

An overarching feature of schools' relationships with their environment that has often been remarked upon is the "market structure" of education. It is this situation that underlies what Carlson (1965) calls the "domestication" of public schools:

> The label of domesticated organization is used to indicate that this class of organization is protected and cared for in a fashion similar to that of a domesticated animal. They are not compelled to attend to all of the ordinary and usual needs of an organization. For example, they do not compete with other organizations for clients; in fact, a steady flow of clients is assured. There is no struggle for survival for this type or organization — existence is guaranteed.

The implication of this non-market orientation is that the prod of competition for customers is weak or non-existent, and so the need to satisfy customers with new practices or improved performance is concomitantly lessened.

It is possible that this economic explanation for lack of change in schools has been overstated. As Corwin (1967) has pointed out: "The parents of public school students do have something to say about where their children will attend school, as they can move, pay tuition to another district, or attend private schools. . .Moreover, schools do compete for favored students, as well as faculty; do struggle to perpetuate a favorable reputation." Selection of faculty is more directly subject to control, of course, and competition for faculty is often inspired by awareness that the better the teacher, the less likely are parents to criticize the school. And a reputation for academic excellence is an important reason for good teachers to join a school's faculty — not the least reason being that better schools are assumed to have more compliant students. Thus, even if schools

do not compete directly in terms of the quality of their product, their desire for good public relations probably enhances quality by its influence on teacher recruitment. Further, when one recalls that a major reason for the massive movement to the suburbs over the past thirty years (on the part of both teachers and parents) was the promise of better schools, then it becomes obvious that a great many Americans have "shopped around." While it may well be the case that the survival of schools is guaranteed (with a few minor exceptions in recent years owing to taxpayer revolts), the level of survival, the security of certain personnel, and the agreeableness of relations with the community are by no means guaranteed, especially during periods of declining enrollment and fiscal stress.

In sum, there are indeed incentives for schools to maintain a relatively high performance level in the eyes of customers and prospective personnel, and to compete with other schools in doing so. The trouble with the present form of competition is that it discriminates against minority and lower class students. Those parents who are able to move or to assess the offerings of different schools are more likely to benefit. And the schools that attract these parents enjoy a buyer's market for faculty (again, especially in times of declining enrollment), which reinforces the inequality of educational programs.

This problem has given rise to various voucher systems, a development that can only be briefly covered here. The major educational criticisms of the original voucher plans were (1) that they would create a dumping ground in certain schools for parents who do not have enough sophistication to use the system, especially if the better schools raised tuition fees,

thereby increasing segregation; and (2) that they would encourage hucksterism, including deceptive evaluation practices and marginal differentiation of the school's product in accord with popular trends, thereby decreasing quality. (The opposition of the major educational associations, including unions, suggests that voucher plans are also viewed as a threat to professional autonomy and control. Since vouchers increase the control of parents externally, although not necessarily within a particular neighborhood, and probably decrease the control of faculty internally, these fears are understandable.)

Jencks' regulated compensatory model sought to deal with the first educational problem mentioned above. He proposed that financial rewards be geared to the school's admission of more academically troublesome students, and that a mandated lottery be applied to half of the new applicants. Since this revision of earlier free market plans would definitely promise to redress the imbalance of educational opportunity, it seems possible that the middle-class would apply great pressure on legislatures, voucher authorities, and local schools to revise or circumvent these procedures. Our historical experience with regulatory agencies being captured by the regulatees with the implicit endorsement of Congress does not bode well for such bureaucratic inventions.

But Jencks' plan deals less adequately with the second educational problem mentioned above, the danger of deceptive practices that is fostered by greater external pressure of an extrinsic sort. For what holds more significance for educational improvement than the lack of competitive pressure to satisfy customers in a free market is the ambiguous nature of

customer satisfaction itself. The primary customers (students) are not expected to be satisfied in the short run because of their status as objects of legally mandated socialization. (In this respect they are similar to prisoners who are purported to be objects of mandatory re-socialization.) And the secondary customers (parents), who are expected to be satisfied in the short run, are usually unable to judge whether the school is living up to expectations. This ambiguity applies even more to long run satisfaction, of course, and education is preeminently geared to long run goals. Inability to detect effectiveness is a function of multiple, diffuse goals and also of the school's creation of insulative mechanisms in response to the political context, of which more will be said later. This feature of education suggests that if schools were more competitive, they could compete on the basis of marginal differentiation and deceptive advertising even more than private industry does. For the vaguer the product of an organization, and the longer one must wait before the product can be fully "consumed," the greater the opportunity to deceive the customer.

Even when a parent reaches a definite conclusion that a particular teacher or program is wanting (short run dissatisfaction), he or she might feel compensated by alternative teachers or programs within the same system. If the child is in the elementary grades, the parent can look forward to the possibility of a better, or at least more acceptable, teacher in the following year. In short, dissatisfaction is often defused because it is limited to one sector of the total system. And because of the dispersion of children among various parts of the system, the emergence of cohesive protest groups is impaired.

In other words, the nature of customer satisfaction in the educational marketplace is remote from its cousin in the commercial marketplace, which renders the economic model of somewhat doubtful validity as an explanation for lack of KU. Ambiguities about educational satisfaction would remain even if schools were operating in fully competitive markets, and might even be reinforced by deception.

Pincus (1974) has gone beyond the notion that the educational market structure discourages KU by pointing out that it discourages only certain kinds of KU. In Pincus' view, the educational market structure prompts a susceptibility to costly, faddist innovations that do not alter basic institutional structures, and a rejection of innovations that would increase competition. With regard to cost, however, Pincus gives too little heed to the economic pressures on schools to keep innovative costs down, especially under today's conditions of rising teacher militancy and stagflation in society at large. To say that schools are more likely than competitive firms to adopt cost-raising innovations, therefore, is not saying very much. The pressures from local taxpayers are still pretty powerful. And with regard to the adoption of non-disruptive fads, this tendency is what constantly occurs in private industry under the label of marginal differentiation of product. And the extent to which it occurs in education can be accounted for by <u>political</u> rather than economic factors.

As an alternative to the economic model and its implied incentives for the explanation of patterns of KU, one needs to consider the explanatory value of a <u>political model</u>. With reference to local contexts, such a model might be conceived along the following lines.

Local Political Relationships

School systems in America are subject to an inherently ambivalent relationship with their environment. In exchange for a monopoly on the functions of socialization and training, they have undertaken to remain responsive to social trends, basic values, and educational needs. But responsiveness has been placed at the local level, which means that professional norms of autonomy and universalism, and organizational norms of internal control over goals and activities, are threatened by community and parental norms of particularism and democratic participation. The monopoly, in other words, becomes highly vulnerable to a host of external demands, many of which conflict because of the segmentation of the community along socio-economic and racial lines. (For the conflicting expectations to which school personnel are exposed, see Gross, McEachern, and Mason, 1957; and Wilder, et al, 19 .) Nor is it true that the community is uninterested in the planned change activities of its local school system. Havelock's (1973:116) national survey of educational innovation found that the community was cited as a key participant in the districts' "showcase" innovations in 18 per cent of the cases, and that parents were cited in another 6 per cent.

The prevention of school-community conflict rests to a large degree on a number of implicit bargains that are struck over the educational program, the treatment of children, the allocation of funds, the authority of teachers, and so forth. These implicit bargains establish consensus between school and community on zones of legitimate authority; and the need to protect these bargains from degenerating into open conflict are the source

of many incentives and disincentives for innovation. Thus, it has long been suspected that the tacit threat of community criticism serves as a negative disincentive (threatened penalties) for adoption of innovations that run counter to the values or life styles of the community, such as year-round schooling, the teaching of evolution, or realistic civics education. Educators do not go to bat for such innovations because they aren't worth the public furor. The manner in which a tacit agreement over the boundaries of action influences innovation can be seen in the following excerpt from Miles' (1978:36) study of new schools:

> In Westgate, concern with possible negative reaction to the proposed innovations by parents discouraged the administration from pressing for (or supporting) substantially new forms of classroom arrangements. The strategy was to avoid upsetting the harmonious relationships with parents by not risking substantial departures from the previously acceptable.

This case, incidentally, comes close to what we have called a positive disincentive, since it appears that the school was being positively rewarded for non-innovation, instead of only being threatened by penalties for innovation.

By the same token, innovations that fall within the community's zone of acceptability are adopted faster. According to Allen (1956), community study required 60 years to be adopted by 90 per cent of the schools in the Metropolitan School Study Council and its national affiliate, but driver training took only 18 years to reach this level of adoption, a discrepancy that is very likely due to the anticipation of differential support by local publics.

On occasion, of course, the community violates the tacit consensus on boundaries of authority and exerts direct pressure for or against particular

reforms or innovations.* The adoption, abandonment, or compromise of innovation is often the result. The "back to basics" movement is a dramatic example of pressure on schools to emphasize particular practices at the expense of alternative ones; the elimination of certain textbooks in West Virginia is another recent example. Indeed, the pressures for educational equality that began to be widely felt in the mid-fifties demonstrate the critical role of community protest in educational change. (More will be said on this point later in our section on community variation.)

Implementation as well as adoption is subject to community influence, although one would expect influence to be less frequently exerted at this stage since many undesirable practices are not even adopted. When Berman and Pauly (1975;40-43) asked teachers to identify problems that arose in the course of implementation from a list of 12 items, only 8 per cent selected "parental or community opposition." But while this factor was infrequently mentioned, it was most decisive in teachers' perception of project difficulty. Parental or community opposition yielded the highest correlation with perceptions of difficulty of any of the 12 items on the list, which included planning deficiencies and troublesome attributes of the innovation.

Berman, et al (1977:154, 165) also found that hostile community reaction to poor test scores was positively related to continuation of projects. The authors add: "The most interesting aspect of this finding, however, is that many of these continued projects were not perceived as particularly successful. We wonder if district officials felt under pressure to demonstrate they were 'doing something' about problems." (p. 165)

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* A rough measure of the amount of community pressure on schools is the frequency of conflict. Ten per cent of secondary school principals report conflict between school administrators and parents at least once a week. (Abramowitz and Tenenbaum, 1978:97)

There are probably certain attributes of innovations apart from their value congruence with the local culture that cause the community to be more or less favorably disposed toward them. These almost certainly include communicability or explicitness (e.g., everyone knows what educational TV is, but few know what IPI is), relevance to local problems (e.g., career education in a low employment area seems to be especially popular), and popularity among various segments of the population. Rosenblum and Louis (1978:317) found that such features of change programs as school carpeting and student field trips "won over many community residents who were skeptical of 'experiments' that might affect their children, or who suspected that strings might be attached to all that federal money." Highly visible programs that had such appealing features were much more likely to be continued, the researchers report.

It also seems plausible that the larger the scope and anticipated impact of an innovation, the greater the community reluctance to support it — at least until firm arguments are presented in its behalf or certain appealing features are incorporated. On the basis of several case studies of new schools, Miles (1978) notes that planners and implementers tend to move cautiously and to wait for community reactions because of the "high uncertainty, vulnerabilities, and tendencies toward risk avoidance which. . .are inherent in the task of creating an innovative, complex social setting which is permeable to hostile influence." Therefore, he adds, "contact with the environment tends to be postponed." This strategy, of course, can backfire as laymen begin to feel that the planners are contemplating a major change without actively seeking their permission and support, which is what occurred in one of Miles' case studies.

The incentive for KU that is supplied by community pressure might not only contribute to the continuation of unsuccessful innovations, but might cause schools to give mere lip service to community demands. The effect of such action might be to reduce *future* innovation by providing the community with a false sense of security about the school's responsiveness. This "lulling effect" can be discerned in case studies of KU.

Smith and Keith (1971) conclude on the basis of their research that schools create a "façade" based on outstanding instances of innovation and continual espousal of high hopes that serves to obscure the embarrassing gap between formal doctrine and reality. Or again, schools might change their *objectives* but not their *internal activities* in response to external forces (Corwin, 1967:). In sum, community demands often foster symbolic adoption *sans* implementation.

Cooptation and insulation are two of the primary mechanisms for dealing with community pressure. Concerning particular forms of lay participation in the school's affairs, Nelson's (1975:73) study of urban high schools found that citizens were involved in the following ways:

	% schools responding "frequently"
Occupational information planning conferences	24
Advisers for special instructional programs	24
Career development programs involving teaching assistance with increasing responsibilities	14
Planning and/or supervising aspects of this school's student activity programs	13
Planning and/or supervising supplementary educational experiences for students	13
Overall educational planning for this school	11
Overall evaluation of this school's program	9

It is noteworthy that the more *directive* the involvement of the community, however, the smaller the proportion of schools reporting that particular

strategy. The two most frequent kinds of involvement entail the giving of information or advice, while the two least frequent entail overall planning and evaluation. Similarly, Berman, et al, (1977:VII-218) found that out of seven strategies used in Title III projects, "parent participation in school planning or decision-making" was next to least frequent (with home visits by teachers being least frequent). Most frequent was non-paid involvement in the classroom, an activity that probably entails the greatest effort and the least reward for parents. Clearly, schools have managed to restrict community involvement to relatively harmless and unrewarding areas. Further, the two types of involvement that were most favored by teachers (judging from the proportion who asserted that they were most effective) were "parent training" and "parents hired as paid aides." Both of these strategies essentially lighten the teacher's workload. Parent involvement is not only relegated to harmless areas of non-decision making, therefore, but is preferable focussed on enhancing the role efficiency of teachers.*

Even on those infrequent occasions when parents are involved in decision-making, educators often manage to escape the more threatening consequences of this arrangement by the select nature of the participants. For research has shown that the composition of citizen groups is highly biased: "Indeed, research on school advisory groups demonstrates that opening the door to participation does not result in a flood of new participants (see, for example, Stromquist, 1976). Interest in education is a specialized concern, with strong appeal among people in education-related fields and of higher

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* This is not to deny that parental involvement in educating their children might be beneficial. For arguments in behalf of this approach, see Fullan (1972:37-38) and Pomfret (1972). No evidence for the effectiveness of the approach is offered, however.

socioeconomic status who have demonstrated a previous interest in voluntary education activities. . .Florida advisory councils seem to have stimulated participation by an unrepresentative elite rather than by the cross-section of school constituents reformers had hoped for." One reason for this situation is that the school dominates the appointment process. Other means of reducing the influence of community participants in decision-making councils include: formulation of the agenda by the professionals; display of esoteric jargon; reference to statistical documentation, such as analysis of test scores or survey results; and delegation of responsibilities. Consequently, as Hill (1976:29) points out:

> Recent efforts to understand parents' aspirations for their children's schooling have shown that parents have strong views but find it difficult to express them. Research about lay participation in school policymaking gives a discouraging picture of laymen's ability to make clear and effective presentation of their demands for educational services. Zeigler and others have shown that school boards and other lay advisory groups serve largely to ratify professional choices. More recent research on Title I parent advisory councils suggest that their role too is marginal. At best, the councils select from short lists of alternatives formulated by professionals.

To counter the latent, and often manifest, threat to control and continuity, schools have devised an array of specific insulative mechanisms: such as diversion of parental concerns within PTA and Back-to-School-Night activities; protection of the school program from scrutiny by board members (Kerr, 19); protection of teachers by principals (Becker, 19); executive sessions of school boards; and so forth. The documentation of these mechanisms is well advanced. At a broader level, Hawley (1975:196) refers to the "myth of professionalism — the idea that only trained and certified educators can really understand and prescribe the ways children learn best." But while such insulative mechanisms might be functional for organizational

control, coherent planning, and occupational autonomy, they have the distinct dysfunction of interfering with needs for support and adaptability. For schools cannot afford to become too remote from the local community for two reasons. First, they must maintain general political and economic support (the economic model of guaranteed support to the contrary notwithstanding). Second, they need to coordinate activities with the family in order to understand and motivate the child, and to engage the cooperation of parents. As Corwin (1973:23-24) notes: "There is some evidence that a child's performance is positively related to his parents' support for, and participation in, school activities (Luszki and Schmuck, 1963; Schiff, 1963; Duncan, 1964; and Himmelweit and Sealy, 1966)." Accordingly, Litwak and Meyers (1967) argue: ". . .a balance at some point between isolation and intimacy would constitute the relationship between school and family most likely to optimize educational objectives."

The fact that these needs are often studiously ignored, however, is shown by the refusal of schools to set up citizen advisory committees, even when mandated by major change projects sponsored by the federal government. In the case of the rural experimental schools project (Herriott and Gross, 1978), the authors note: "No instance of participation based on citizen control, delegated power, or partnership can be found" (252). . .It is striking that despite ES/Washington's insistence, community participation was ineffective in every case" (278). Similarly, a study of career education in six school districts found "very little use of input from the community at large. . .Principals devoted less than an hour a month on the average to community relations activities related to CE, and there was no

indication that they felt the programs were impeded as a result of lack of effort." (Rittenhouse, 1977:24) The same general conclusion can be drawn from the current eveluation of the RDU project (Abt, forthcoming).

Herriott and Gross have noted that aloofness to the community may have severe repercussions: "If these concerned groups [teachers and parents] have limited or erroneous information about proposed change efforts, or are not invited to express their views about whether the innovations should be introduced, they will often, upon the slightest provocation, turn against them" (29). Thus, to the extent that insulative mechanisms become self-perpetuating patterns of behavior and belief, they not only impair the school's ability to benefit from parental involvement in change efforts or to be responsive to worthwhile reforms favored by the community, but exacerbate the very threat to internal control that they are designed to alleviate.

That insulation efforts can backfire when laymen come to believe that the planners are contemplating or undertaking change without seeking their permission and support has been noted by a number of observers. As Hawley (1975:196) has pointed out:

> One might speculate that where there is negative parent reaction to classroom innovations, this is at least in part the result of the tendency of school officials to relegate such matters to themselves so that the reasons for, and the objectives of, changes are never explained. If this is true, then efforts by schools to protect their core technology from environmental pressure not only reduce external incentives to deal with dysfunctional rigidity but restrict the capacity of the organization to change when it does try to do so.

A similar point is made by Smith and Keith (1971:47-48) as a result of what they call the "cloaking" of school activities from outside scrutiny.

Sieber (1978:14) presents the following case based on Miles' research on new schools:

> . . .it is highly interesting that the various mechanisms that were employed to avert conflict only appeared to aggravate it. Thus, the school board promised to include at least one self-contained classroom in the new "open" structure school as a means of gaining passage of the bond issue. When it appeared that the promise was not being honored, the community rose up in arms. The Board's second nominal solution was to launch a survey to determine the wishes of the parents. The case study reports the outcome as follows: "The Board's decision to require the community survey seemed crucial: it sharpened school-community conflict in many respects, though it was designed to reduce it."

The boomerang effect of insulative mechanisms pose penalties to innovation irrespective of the particular innovation that is being planned or implemented. For the real issue is not so much the nature of the innovation as it is the community's right to know about and to participate in major changes. Thus, parents might tend to reject <u>any</u> major change that they feel was foisted on them.

What this analysis suggests is that local control of education has ironically prompted aloofness to community needs and demands on a day-to-day basis, an outcome that is the opposite of what was envisioned by its advocates. While the original impetus for aloofness is the need to contain threats to professional and bureaucratic authority, it is reinforced by the need to cope with community protest when exasperation with the "façade" reaches the boiling point. Thus, the need for insulation tends to be self-confirming precisely because insulation is intermittently self-defeating.

While it is likely that many of the internal organizational forces that prompt innovation also influence the use of information or consultation

on a day-to-day, supplemental basis, KU of this kind might be less susceptible to pressures from the local environment. In fact, owing to its lower visibility and smaller impact, information use may be more responsive to performance related incentives.

The major exception to this rule is the use of research and other forms of expertise to <u>legitimize</u> practices to the community. Nor should it be assumed that legitimation serves only to maintain the status quo, for the practices that are defended might be either old or new: if old, then educational personnel might wish to dissuade parents from forcing them to adopt alternative practices; but if new, the supporters of the practice might wish to sell or defend it on the basis of purported scientific authority although the decision to adopt was made on other grounds. Miles' (1978) study of new schools provides an example of the latter function. In one of the school sites, outside experts were called in to testify before skeptical community members long after the plans for the school had been conceived by the local staff with only slight reference to external expertise. Herriot and Gross (1978) offer another example from one of their case studies:

> Consultants rapidly became the buffer between the superintendent and his many publics. Consultants were used to explain the ES project to the community, to the teaching staff, and occasionally to the feds. In this role, their words were to be taken as dictum.

And the authors add: "Too frequently, consultants are hired for political purposes — to persuade skeptical publics or to sway opinions among those impressed with a consultant's status." Because researchers have tended to restrict their attention to professional incentives for information

use (e.g., curriculum development, keeping abreast, making plans, etc.), legitimative incentives have been virtually ignored. This point will be elaborated later when we turn to internal sources of KU incentives.

This is not to say that communities do not offer rewards for KU in the form of greater organizational support and personal appreciation of "progressive" teachers and administrators. But the low visibility of KU activities and the esoteric nature of many school practices probably limit the operation of this reward pattern. Also, parents may be more traditional than educators in their pedagogical expectations, which would mean that they are not even a major <u>potential</u> source of positive incentives for adoption of new practices.

Further, sometimes the positive incentives offered by the community are of a nature that lend themselves to exploitation for personal advancement and distract from KU efforts. A striking example is the case of a superintendent reported by Harriott and Gross (1978:123). With regard to participation in the experimental schools program, they report:

> Securing federal funds and thus creating new jobs. . .served a political function for Hinton [the superintendent]. . .By making judicious use of his authority to recommend individuals for employment, the superintendent would either repay past support from key families and friends, or otherwise maintain and extend the base of support for himself as well as his professional ideas and activities. Key families and persons became obligated to him because he had, after all, "helped them out."

Subsequently, the superintendent withdrew from direct involvement in the project, delegating authority to principals. But the latter pled that they were over-burdened, which put the entire responsibility for management of comprehensive change on the project coordinator. This pork barrel incentive for involvement in innovation might be extremely common, since all major

knowledge utilization efforts provide resources that can be exploited for the enhancement of institutional security or private aggrandisement in the community.

Our discussion has pointed to five ways in which the community typically influences the knowledge utilization process: direct pressure for or against particular innovations (negative incentives/disincentives), which may lead to rejection or desirable innovations or symbolic adoption; the inducement of insulative mechanisms that shield the community from the educational process, with loss of family involvement and the possibility of community ire directed against reform when these mechanisms backfire; the establishment of certain implicit boundaries within which innovations may be initiated; the provision of political incentives for exploitation of KU resources for personal aggrandizement; and pressures to use expertise as a means of legitimizing old or new practices to the community.

Before moving on to consider some community incentives that vary from system to system, it should be emphasized that our conclusions are fairly conjectural because of the paucity of research on the public's interaction with schools in the innovative process. Clearly, this is an area that has been slighted by researchers, despite the importance of anticipating community reaction to planned change programs. Havelock's (1969) monumental review of dissemination and utilization of knowledge includes less than a page on the topic of community influence, and does not cite a single study of education. Likewise, Zaltman, Duncan, and Holbek's (1973) survey of innovations and organizations includes a section on factors in the external environment that affect innovation, but does not cite any studies of education. And more

recently, Fullan and Pomfret (1975:100) remark, "The role of students and parents as decision-makers in relation to degree of implementation have been entirely neglected as far as we can tell." Kirst (1978:287) has observed: "Unfortunately, there is little empirical evidence to suggest which models of parent participation are likely to prove most effective in various institutional settings, or what types of implementation strategies would make them useful. The time is ripe for comparative research that seeks to identify what works and what does not."

This blind spot in research is all the more surprising in view of the fact that secondary school principals cite "parents' lack of involvement in school matters" as one of their three most serious problems (Abramowitz and Tenenbaum, 1978:54). Now let us turn to a consideration of the more variable incentives/disincentives for KU emanating from the local context.

Community Variation

Communities in America vary enormously with respect to educational values and kinds of involvement in local education. One important variation that affects reactions to KU, according to Corwin (1973:367) among many others, is stability. But Corwin points to a curvilinear relationship, while most other observers see a linear relationship (e.g., Zaltman, Duncan, and Holbek, 1973:110). Thus, he notes that either too much stability, as in tradition-bound communities, or too little stability, as in big city ghettoes, generates "increased risk that any form of change might ignite conflict."

Size of district is also related to community reaction, with smaller districts more often evincing negative or mixed reactions to major innovations (Havelock, 1973:105), and less often giving support for continuation of federally initiated projects (Berman, 1977:166). Havelock (1973:116-117)

also found that "community members. . .play a more extensive role in the very large districts, participating in 48 per cent of the showcase innovations." Perhaps the more formal arrangements with the community that no doubt characterize the largest districts are more effective than the informal relationships that prevail in smaller districts. Or perhaps the closeness of school and community in smaller districts prompts the school to erect barriers. Indeed, Corwin (1973:266-267) found that teachers were more resistant to community activities in less urban and modernized areas. Also, it is likely that parents in smaller, traditional communities evince less interest and therefore less involvement in local education. In the absence of regression analysis of data that are focussed on school-community relationships it is impossible to settle such questions.

The studies of school adaptability at Teachers College led to several conclusions about community characteristics that are associated with innovation, characteristics that point to the role of positive incentives for change provided by the better educated and less alienated sectors of society:

> An adaptable school tends to be located in a community which. . . tends to be high in per capita wealth, per pupil expenditures for education, percent of eighth grade, high school and college graduates. A fairly high median (educational level) has been attained by those who are twenty-five years of age and older in the community. . .It has a high level of understanding of what schools can do. (Kumpf, 1952:13-15)

Conclusions about wealth might not apply in times of widespread federal funding to upgrade instructional resources or to the incendiary conditions that were created in the 'sixties by the movement for equality. Carlson's (1965) data did not confirm a relationship between district wealth and the adoption of modern math, a finding that was attributed by Rogers and Shoemaker to the provision of outside funding that presumably helped poorer

districts. Nelson's (1975) study of big city high schools, conducted in the 'sixties, found a slight negative relationship between pupil expenditure for the district as a whole and innovation adoption. And once again, the possibility that federal support for innovation more than compensates for a city's relative poverty might help explain this finding. An alternative explanation is that wealthier districts have begun to shift a larger proportion of funds into "maintenance" needs, such as teacher salaries and reduced class size, as a result of teacher militance.

The significance of certain other community factors identified by the Mort studies seems to persist, however. Thus, Rosenblum and Louis (1978: 297-299) found that the "rurality" of the Experimental Schools was highly negatively related to implementation; and Corwin (1973:272) found that schools in less "modernized" areas scored lower on an index of technological change associated with the Teacher Corps. This finding is attributed by Corwin to the greater organizational rigidity, greater autonomy of principals who wish to use new resources to suppliment normal programs, and greater participation of faculty in controlling the change program in these schools (pp. 273-274).

Under conditions of increased pressure on schools with minority group members, instability in the local context might generate negative incentives for change that match the positive incentives offered by more advantaged, better educated communities. Thus, according to Nelson's study, Black Integrated schools (51% to 80% Black) had the highest adoption rates, followed by White schools (less than 20% Black), then Black schools (over 80% Black), and finally White Integrated schools (21% to 50% Black). Moreover, adoption rates were related to the school's socio-economic level only among White schools (p. 110).

Nelson also found that during the late 'sixties parental participation was highest in the predominantly Black schools, next highest in the Black Integrated schools, next in the predominantly White schools, and lowest in the White Integrated schools. Nor was parental involvement significantly related to either SES or Academic Quality of the schools independently of racial composition. Moreover, parental involvement was found to be strongly related to adoption of innovations, and this influence occurred even within categories of racial composition.* The strongest relationships were found among White Integrated and Black Integrated schools, suggesting that community pressure for the upgrading of minority education prompted many change efforts. The relationship is also strong among White schools, although much weaker than in the previous types of schools. It is weakest, and perhaps even non-existent, in the predominantly Black schools.

These findings confirm Corwin's hypothesis that unstable ghetto schools are as conservative as traditional small town schools, for it is among the predominantly Black schools that participation is highest (denoting instability) and that the relationship between participation and innovation is least. The explanation, however, might not be that ghetto schools are afraid of igniting an unstable situation, but that they have retreated into a protective shell as a result of manifest threats to autonomy and control. Thus, once again we witness the insulative response of schools to extreme pressure from the community, a response that might include token change but that entails a stronger tendency toward retrenchment.

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* Berman, et al (1977:219-220) found that Title III projects with a major goal of parent involvement had more teacher change and more change in students' attitudes and behavior (but not achievement).

This interpretation is supported by Vanecko's (1970) evaluation of the affect of community action programs on local schools. He found a moderate relationship between emphasis on organizing the poor (as contrasted with delivering services) and adoption of innovations in local schools. Other types of educational change were also related to community organization: decrease in student-teacher ratio, hiring of auxiliary staff, cooperation with programs, PTA interaction with community groups, the school's promotion of participation, and membership and attendance in PTAs. Thus, it seems reasonable to assume that participation contributed to certain reforms, as suggested by Nelson's data. A strong reservation must be made, however, in assessing the extent to which such reform was enduring, or even actually implemented. First, Vanecko found that the effects of community organization on public schools was much less than its effects on other local institutions. Further, negative associations were found between effective community organization, on the one hand, and hiring of minority group members and the community's appraisal of the schools' responsiveness, on the other. In short, it appears that while some changes were made in response to pressure, the activists were frustrated by the guild reaction of school personnel to their demands. Sheer pressure through community organization can have some impact, but it may not be enough to radically alter schools in lower class communities. As Vanecko (1976:84) puts it: "without some unforeseen infusion of new political resources, some deus ex machina, community action is likely to be a compromise between the entrenched interest groups and the demands of the newly enfranchised poor." Turning once again to Nelson's study, we find some indirect evidence

of such compromise in the fact that the schools that were not predominantly White were less likely than White schools to report worthwhile structural innovations as contrasted with more doubtful changes in instructional techniques (as judged by a national panel of experts). If non-structural change is reflective of tokenism, then it is possible that tokenism is more common in schools with minority group members despite, or perhaps even because of, the greater pressure that is sometimes exerted.

As noted earlier, information utilization is probably less responsive to political factors than innovation. Nevertheless, there are undoubtedly other contextual influences on information seeking and use, such as the cosmopolitanism of the environment. Educational personnel in communities with higher educational levels are probably recruited for their orientation to expertise as reflected in graduate work and participation in special training programs, and then in turn stimulated by the local environment to keep abreast of educational developments. However, we have been unable to locate a study that relates utilization of information to demographic characteristics. (This type of analysis, for example, was omitted from the educational information market study by Hood and Blackwell, 1976, and from Sieber, et al's, 1971 evaluation of the Pilot Dissemination program.)

A community characteristic related to educational level that no doubt influences the extent and type of information use is the availability and quality of traditional information sources, such as libraries, museums, government archives, adult education programs, and colleges and universities. But once again we have been unable to find a study of local educational KU that takes these agencies into account, with the exception of universities in Corwin's study of the Teacher Corps. In sum, almost nothing is known

about how local educators avail themselves of traditional information sources, and of how such sources are integrated with components of the RDD&E system on a local basis.

Summary

The local context supplies both incentives and disincentives for knowledge utilization. However, these incentives and disincentives seem to be predominantly non-performance oriented and negative, i.e., pressures for or against KU with threats of penalties. This situation arises from the school's resistance to lay influence, which in turn is prompted by the tenuous claims of education to professional autonomy. Since the school needs a certain level of support and endorsement from the community, and also needs to coordinate its socialization activities with the family, it cannot afford to reject the community's demands totally and explicitly. Thus, schools seek to protect themselves by insulative mechanisms such as cooptation, symbolic adoption of innovations, and the legitimative use of expertise. But these devices sometimes only increase the threat to autonomy by exasperating the community, which calls for further measures of self-protection and perhaps some compromises on the part of educators. Further, even when consummatory incentives of an intrinsic nature would seem to be offered by the community (e.g., greater respect for educators for joining with parents in achieving the benefits of a new program), the operational disincentive of subjecting one's professional decisions to lay scrutiny, control, and evaluation might undermine the appeal of any such incentives.

Educators are indeed faced with a dilemma between environmental contact and withdrawal, as Miles (1978:I-66) puts it. Unless this dilemma is

properly managed by attempting to balance the antithetical needs for withdrawal and contact, the actions of both parties may tend to be self-defeating. Thus, parental pressures and criticism strengthen the self-protective stance of schools, while the aloofness of educators interferes with the tasks of socialization and organizational maintenance, and often increases community demands and criticism. The prospect of joint planning and implementation of change based on systematic inquiry and development is displaced by considerations of political expediency and survival. Or put in the language of an incentive paradigm, the disincentives for KU of threats to task/role autonomy, role efficiency, and organizational security tend to exceed the incentives of improved performance as educators.

KU strategists have done little more than advise schools to set up community advisory groups in connection with particular projects. But there seem to be few models, and evidence of their effectiveness is non-existent. Technical assistance is also lacking, and project personnel are seldom given primary responsibility for creating community linkages. Nor are centers of political power in the community approached on matters of educational change, except under circumstances of community-wide controversy, possibly owing to the political naïvete of educational change agents.* In short, a domain of influence that contains some of the most powerful incentives/disincentives for KU has surprisingly low priority in the KU research community.

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* Research has shown that school administrators are not nearly as well informed about the distribution of power in their communities as leaders of other service organizations.

CHAPTER 3

Internal Sources of Incentives/Disincentives for KU

Since I have already alluded to several sources of reward that are threatened by actions of the RDD&E system and local contexts (e.g., task/role autonomy, role efficiency), I am aware that I have to some extent anticipated my analysis of internal sources. But a focus on locally generated incentives/disincentives will make it possible to cover a fuller array, and to study their institutional genesis.

An issue that needs to be disposed of immediately is whether there are any incentives for KU in schools, for one often receives the impression from the literature that there are not. Frequent reference to a status quo or a civil service "mentality," to fundamental resistance to change, to institutional conservatism, and the like, imply that school personnel are simply hostile to new knowledge. Earlier I sought to combat this presumption by citing surveys that reveal considerable innovative activity and seeking of information. One might add that the large number of professional journals tailored to every level, subject, and specialty in education attests to a strong desire to at least give an appearance of keeping abreast of new ideas and developments.

I have also acknowledged the preponderant role played by ordinary knowledge as distinct from expertise, however, and the possibility that expertise will never serve as more than a supplement to ordinary knowledge. This perspective further suggests that the KU function of "enlightenment" might be at least as important as that of problem-solving, and perhaps more so, since enlightenment implies a gradual infusion of new concepts and sensibilities that challenge conventional wisdom. Problem-solving, on the

other hand, is a matter of applying specific techniques (R&D solutions) to clearly identified problems, and therefore might not affect the traditional assumptions about teaching and learning under which school personnel tend to proceed. Moreover, KU of any kind is probably only a minor form of organizational participation, despite the evidence of greater involvement in KU than has been commonly assumed.

These caveats are important to bear in mind, not because they negate the existence of incentives for KU, but because they place the issue of incentives in a more realistic perspective. If formal expertise is often used as a supplement to ordinary knowledge, and if KU is only a minor form of organizational participation, then it follows that KU (and particularly the R&D variety) is governed by the values and beliefs of school personnel and the occupational and organizational pressures of public education. This is the central fact of life that is overlooked by theorists who believe that KU invariably begins with a felt "problem" that cries out for solution. This perspective no doubt exalts professional expertise to the status of a great white hope and thereby functions as a self-serving myth in the RDD&E community. But before elaborating this point, let us test the assumption about the centrality of perceived problems as the key incentive for KU by perusing some research on the issue. This task is especially important because problem solving is currently enjoying a strong vogue in R&D circles as the KU incentive par excellence, and thus threatens to drive all other contenders from the field.

Problem Solving as a Key Incentive

Havelock (1969:ch. 10, p.29) has characterized the problem solving perspective as follows:

> /An individual or group/ initiates the process of change by identifying an area of concern or by sensing a need for change. Once the problem area is identified, the receiver undertakes to alter the situation either through his own efforts, or by recruiting suitable outside assistance.

This notion is firmly rooted in the organizational literature. As March and Simon (1958:173-174) assert: "/An/ organization does not search for or consider alternatives to the present course of action unless that present course is in some sense 'unsatisfactory'." Similarly, Abbott (1969:170) claims that "dissatisfaction with existing procedures or arrangements will occur when there exists a perceived disparity between performance and aspirations." And Zaltman, Duncan, and Holbek (1973:55) embrace Downs' (1966:191) viewpoint that innovations are triggered by a "performance gap," which is simply an operational definition of a problem that requires solution. As Zaltman, Duncan, and Holbek put it: "The impetus to innovation arises when organizational decision makers perceive that the organization's present course of action is unsatisfactory. When a discrepancy exists between what the organization is doing and what its decision makers believe it ought to be doing, there is a performance gap. . .performance gaps provide a stimulus for innovation."

Yin, et al, (1976:13-14) point out that "The problem-solver approach. . . makes the key assumptions that most if not all organizational changes stem from the existence of a problem and that the service-improving innovation will be fully implemented by the organization once the service improvement has been initially demonstrated." Thus, the performance gap theory refers to an incentive both for adoption and for implementation. Now, what does research say?

As for adoption, we have already cited the finding of the Rand Studies that many federally funded projects in education were initiated for "opportunistic" rather than "problem-solving" reasons. Mann (1976:324), a member of the Rand research team, goes even further with reference to staff development:

> The literature on planned change stresses the importance of a high level of felt need for change. . .None of these projects was initisted in response to a significantly felt need to change among school staff. . .Most projects came into being because of a small cell of persons who operated independently of or in opposition to the wishes of district superordinates and the trainee group as well.
>
> Most school districts store their needs in a bottomless pit. When outside money appears, the district fishes around the pit until it finds a need that matches the announced purposes of the soft money. That need is then elevated to the status of a priority in order to demonstrate the district's commitment, and not incidentally in order to capture the bucks. . .the process invalidates the central tenet of a district-based goal-seeking model of change.

Conceivably, the small cell of persons may sometimes have been motivated by a performance gap; but this was clearly not the case with the majority of those who endorsed or participated in these projects.

It is possible, of course, that performance-gaps are more critical for implementation than for initiation. But Yin, et al (1976:98,121) failed to find a relationship between their measure of a performance gap (need to meet service demands or reduce cost) among local and state service agencies and either successful innovation efforts or service improvement. "Some innovations may occur independently of any problem," they conclude, "and there may be conditions other than service improvement. . .which can lead to the implementation of an innovation."

Similarly, among rural schools in the Experimental Schools project, Rosenblum and Louis (1978) did not find a correlation between a perceived

discrepancy between goals and achievement, on the one hand, and implementation, on the other. They did find a moderate correlation beween the staff's perception of problems within the school and implementation, but one that was much lower than the correlations with staff collegiality and with educational level, and somewhat lower than the correlation with staff morale. It appears, then, that certain professional predispositions to implement a change project are more important than the perception of particular problems; and Mann's reference to the influence of a "small cell of persons" suggests that such predispositions operate mainly through cliques of internal advocates.* These findings do not bode well for the performance gap theory of KU.

Data that I have previously cited on the "relative advantage" of innovations as inducements for adoption and implementation also bear on the role of problem solving as a critical incentive. And it will be recalled from Chapter 2 that previously demonstrated merit has not been found to be significantly associated with adoption, implementation, or outcomes. The only aspects of relative advantage that Allan and Wolfe, Jr. (1978) found to be related to adoption were increased popularity and money saved.

The belief that innovation is preeminently inspired by identification of an overarching problem or need will undoubtedly persist, however, because it serves a definite function for practitioners and R&D experts alike. In a word, it legitimates action by reference to widely shared rationalistic values. Thus, when Havelock and Havelock (1973:186) asked superintendents to indicate the factors that had been most important in the initiation and implementation of a "showcase" innovation, they found that problem-solving items received a slightly higher mean rating than other perspectives. (Among all single

* That a very important incentive for internal advocates is career advancement will be demonstrated later.

items, however, it was the "persistance of advocates" that was most frequently mentioned by the superintendents. This strongly supports Mann's assertion (supra) that a small group is critical.) In spite of the weak role of problem-solving as an incentive, therefore, it continues to receive a good deal of emphasis in the rhetoric of local school personnel.

The idea also serves to justify the RDD&E enterprise. For the importance of a performance gap in fostering KU is the school level version of the technological bias found at the R&D level. Although change theorists often view the R&D perspective and the problem-solving perspective as alternative "models" of KU, in fact the latter developed as a corollary of the former. R&D products or practices were never intended to be imposed upon schools by fiat. The central assumption was that R&D provided the technical resources, while schools would provide the rationally recognized need for these resources. The technological perspective, which is in the business of dispensing definitive solutions, requires schools with definitive problems to justify its existence. This perspective does not demand that the identified need be meaningful to school personnel, but only that the schools will act like it is just long enough to adopt its ready-made solutions.

When it became clear that schools were not willing to play this game, even when provided with funds, special efforts were launched to create a "problem-solving capacity" in an attempt to salvage the R&D raison d'etre. In short, the assumption that such a capacity was the key to adoption and implementation persisted.* Problem-solving as a strategy then began to assume a life of its own — and ironically, one that often thwarts KU. For it has

* For a similar interpretation of the problem solving perspective as espoused by NIE's (1973) task-force on innovation, see House (1974:239-240).

been used to sabotage innovation (as in the case of the Teacher Corps' participatory decision-making approach, to be mentioned later), or has stimulated so much interest in local self-sufficiency that R&D products have been utterly ignored at the adoption stage (as in the RDU project described earlier, p.78). Sadly for those who have invested so much, not even the engineering of local problem-solving processes guarantees the saleability of R&D resources, and in fact might insure their rejection.

Functional Needs of the Educational System

Incentives for KU do not commonly spring full-blown, as the problem-solving enthusiasts would have us believe, from the headaches of two and a half million Zeuses. They arise from something far less divine: the functional needs of the system, which in turn stem from the organizational and occupational structures of education and the technology entailed in the training and socialization of reluctant youths. It becomes necessary, therefore, for us to step back from our concern with KU for a moment and to try to understand the sociological nature of the educational enterprise. Although another paper in the present synthesis deals at some length with the generic features of educational systems (see Miles), a brief analysis is needed here to give a perspective on the incentives/disincentives of school personnel. (We omit a discussion of vulnerability to the environment since this feature was dealt with earlier.)

The first and foremost feature is that education is universally compulsory. This means that the entrants must be motivated either by severe discipline or by allowance for individual and subcultural self-expression,

e.g., athletics. Severe discipline having been ruled out by humanistic pedagogy, the peer culture is allowed to flourish and individual self-expression must be harnessed in the interest of pedagogical ends. Among other things, this means performance of both affective and instrumental functions in the classroom by the same individual, a combination that small group research has found to be problematic. Universal compulsion further means that the more compliant and academically able clients will be favored by the system. Those not favored tend to become alienated and troublesome, which leads to segregation in "tracks" or special schools. Finally, the sheer weight of numbers imposed by a compulsory system means that the system is forced to engage in collective processing.

This latter feature in turn calls for: student control and management inside and outside of classrooms; standardization of treatment within age grades; need for coordination between grades and curriculum; minimization of bureaucratic costs; and collective resistance from those who are perforce being processed. This characterization does not mean that schools are tightly structured organizations, for there is obviously a good deal of functional autonomy among its parts. Some theorists have even gone so far as to assert that because of the "loosely-coupled" nature of schools, the formal structure serves mainly a ceremonial instead of a coordinative function. (Meyer and Rowan:1977) But functional autonomy of parts (a term, by the way, which is the deposed sociological ancestor of "loose-coupling") does not mean that strong pressures for standardization and control do not exist, but only that certain counter pressures also exist.* Thus, emphasis on coordination need not represent a ceremonial facade, but merely a forlorn

* For elaboration of the theory of functional autonomy of parts in formal organization, see Gouldner (1959).

hope that is constantly being pursued. The counterforce to extreme bureaucratization can be found in another fundamental feature of American education.

This second feature of American education is the inherent complexity or nonroutineness of the task of social control combined with socialization in skills, knowledge, and values simultaneously. This feature requires: use of a labor intensive technology and educated work force; heavy reliance on immediate feedback from pupils, both affective and intellective, for self-monitoring purposes; routinization of practices to alleviate role anxieties and to attain economy of effort (role efficiency); task/role autonomy for instant decision-making and protection from incapacitating scrutiny (a major source of low interdependence among personnel); an experiential and commonsense knowledge base; and a balance between service to clients and subservience.

The two overarching features of universal compulsion and task complexity combine to produce quasi-professionalism on the part of school personnel. While teachers are engaged in a human service occupation that requires some amount of education, autonomous decision-making, and freedom of action, they are members of a formal organization that presses for accountability, routinization of activities, continuity of structure, calendarity, and so forth, as noted above. Thus, there is a tendency toward conflict with organizational demands and constraints. A major weapon in this conflict is legitimation of professional autonomy or "guild protectionism" vis-a-vis administrators as well as the community.

The third and last fundamental feature to be discussed is the nonstaged structure of the teaching occupation. The term "nonstaged" is borrowed from

Lortie's (1975:82-100) analysis of the career structure of teaching, and refers to the relatively small increments of income and status over the occupational life span of teachers. This circumstance tends to favor recruitment instead of retention, since little objective reward is rendered for longer years of service. Also, what formal rewards do exist are given for sheer incumbency rather than individual effort (i.e., the "system rewards" of Katz and Kahn, 1966). Consequently, occupational commitment is low, with many individuals (mainly females) moving in and out of the profession and many others (mainly males) holding non-teaching jobs while working as teachers. In general, this structure favors females who are waiting for marriage and those already married who would like to supplement the family's income. And as Lortie observes: "My findings underscore the relative weakness of organizational resources in mobilizing the involvement of women; the capacity of school officials to influence the engagement of female subordinates is sharply constrained." (p. 94) In short, there are competing incentives outside the domain of education. This results in higher satisfaction for married females (p. 95), presumably because of their compensatory or buffer role in the family, despite lower commitment to the occupation. In the fortunate position of having two "careers," married female teachers feel that teaching has entailed fewer costs (p. 96), such as social isolation, which is a frequent source of complaint among teachers; and they can move in and out as family obligations demand.

To be sure, there is a small core of older teachers from whom the occupation has elicited primary loyalty throughout their working lives. These, however, are also somewhat immune to superordinate authority. Thus,

both high and low commitment foster individualism. And since the allocation of rewards is based on role incumbency rather than personal effort, there is little incentive to be led by the more innovative teachers. In addition to individualism, Lortie notes that the absence of future-oriented career incentives (except for a select number of males) places a premium on present sources of gratification. And since rewards do not vary according to effort, he argues that only "psychic rewards" can provide the requisite motivation for daily exertion. Thus, in Lortie's view, teachers are primarily oriented to task-related feedback from their pupils, a tendency that is reenforced by the cultural emphasis on service.

Now that we have taken a brief look at some of the overarching features of American school systems, I will discuss the implications of these features for KU incentives/disincentives.

Role Efficiency and Overload

The first implication to be drawn is that teachers and administrators are very busy with their collective processing and control activities. Thus, efforts to promote KU often entail threats of overload or conflict with regular classroom and school-wide responsibilities, including pupil discipline. "From the standpoint of teachers the complexity of their task reflects in large measure the fact that a classroom of twenty-five children or so is a lot of children for any one person to handle," Sarason (1971:152) observes. "In addition the children vary enormously. . ." Hence, much of the pressure from teachers for reduced class size is caused by the desire for greater role efficiency. "Like the heavens of religion," according to Sarason (1971: 157), "reduced class size is a teacher's ultimate reward in comparison to which inadequate salaries pale in significance."

Few problems pose more serious disincentives for KU, and yet there seems to be a tendency for policy makers and change agents either to overlook the problem or to discount its expression as a symptom of conservatism and lassitude. Role overload created by innovative efforts was found to be one of the major barriers to implementation by Gross, et al (1971) and by Charters, Jr., et al (1973). Jones (1973:75-76) graphically relates the problems that arose in an effort to introduce differentiated staffing:

> The teachers never resolved the recurring problem of too much work. How could they complete the endless paperwork for the project itself? How could they evaluate the 40 pupils in each classroom? How could they share responsibility with new program personnel? How could they work with teacher assistants who had neither adequate released time nor adequate indoctrination? . . . The principal's time was consumed in the day-to-day business of running the building. The teachers were faced with more students per classroom, more student discipline problems, more adults to relate to and coordinate, more team meetings and for some, added leadership responsibilities.

When Berman and Pauly (1975:40-43) asked teachers to indicate their problems in implementing a project from a list of 11 items, the item "teachers already overloaded" was third place in frequency of mention, 27 per cent so responding. Only lack of familiarity with the innovation and inadequate resources were mentioned more often. Moreover, the correlation between teachers' perceptions of implementation difficulty and overload was higher than that found with more frequently expressed problems. In fact, only "parental or community opposition" yielded a correlation with perceptions of difficulty that was stronger than the correlation with perceived overload, and this problem occurred far less frequently than overload.

Ironically, one serious source of overload is involvement in several change projects simultaneously. "In general," Greenwood, et al (1975:43)

observe, "the problems caused by competing innovations were less severe in the more complex projects, many of which encompassed all activities of schools or classrooms. In the ancillary project, however, new projects starting up simultaneously in the district sometimes led to shifts in the district staff's interest and priorities that eroded the attention given to change agent project implementation."

According to case studies in the RDU evaluation (Abt, forthcoming), the problem-solving approach that was to be implemented was rejected by several schools because too many innovations were already underway. But not only new practices and change approaches, but mere information will encounter indifference and resistance if clients are too busy to pay attention. Accordingly, information linkers have found it necessary to screen materials and to mark particular sections of documents before delivering them to clients, and if possible to summarize and explain the major points orally (Louis and Sieber, 1979:145-146). In sum, KU often threatens to deprive school personnel of their hard-earned role efficiency.

Conversely, if a particular form of KU is geared to relieving work load or enhancing efficiency of effort, then role efficiency might well serve as an incentive for participation in KU.* One means of relieving work load in the process of a KU effort might be to lift many constraints in the school simultaneously. This might provide more flexibility and adaptability: the innovation will not compete or conflict with traditional obligations because such obligations are being relieved. In fact, this effect might account for the finding of the Rand studies mentioned above, namely, that comprehensive change efforts entailed less conflict with other innovative activities. In

* As one researcher has put it: "Since teachers feel over-burdened with restrictions and inroads on their time one category of rewards is related to the removal of some of the unpalatable chores." (Hancock, 1974:174)

particular, work load can be relieved by generous allocations of funds for released time. Another means of relieving work load is to supply a wide range of information (rather than particular innovations) that makes it possible to pick and choose what seems congruent with one's economy of effort. That such information exists is demonstrated by Sieber, Louis, and Metzger (1972:521) who found that 34 per cent of the clients in three states averred that the information they had received had "made my job easier." This benefit ranked fourth in frequency of mention in a list of 14 possible benefits. With regard to holistic practices or products, role inefficiencies can be averted with the help of procedural guidelines.

In any case, it is clear that greater attention needs to be given to the design of KU efforts so that role efficiency is maintained or, if possible, enhanced. Presently there is a tendency to shift the burden for dealing with overload problems to local managers, as if the creators and sponsors of new knowledge had little responsibility for the difficulties they impose, and as if more local planning to prevent burdens did not itself impose overload problems.

The idea of role efficiency might account for a good deal of "commitment to established routine," as it is somewhat sneeringly called by change theorists. In contrast to such concepts as "conservatism" or "maintaining the status quo," the concept points to a functional need for economy of effort rather than to a cultural value that mysteriously discourages KU. And it invites systematic inquiry into the ways in which school personnel presently allocate scarce resources, including time, to different roles and goals, and to the possibilities that their method of allocation could be improved in a

manner that would release more energy for KU and that new knowledge might expedite this process. In short, the analysis of role efficiency begins where references to "established routine" leave off.

Superordinate Support, Leadership, and Power

Another major source of incentives/disincentives that resides in the requirement of collective processing is the attitudes and behavior of administrative superiors. Many observers have noted the key role in KU that is played by administrators (Fullan and Pomfret, 1975:102; Greenwood, et al, 1975:40-42; Smith and Keith, 1971:123; Emrick and Peterson, 1978:70; Gross, 1979). While teachers enjoy a good deal of freedom from control by administrators, and principals enjoy a good deal of leeway vis-a-vis district level personnel, when it comes to KU the attitudes and performances of superordinates are often decisive. To be sure, KU can occur in situations where superordinates are passive, but it rarely occurs when they are opposed (Emrick and Peterson, 1978:71).

Several factors might account for this situation: superordinates can make resources available, provide training in new skills, and make organizational allowances for implementation; compliance with expectations of superordinates might be traded for support or autonomy in other domains (such as protection from parents, or student discipline); respect for the professional leadership of, and desire for recognition from, adminstrators might engender trust and compliance with their proposals for change; a sense of professionalism might be released by the responsibilities for reform that are newly allotted to teachers, especially if self-determination is encouraged; one's career might be influenced by superordinates' ratings for KU participation via teacher assessment reports; certain individuals are picked by the administrator to carry out a change program.

These alternative explanations reflect different theories of administrative influence, theories that might be labelled as follows: instrumental support, negotiation, symbolic leadership (charisma), liberation, power-coercion, and selective recruitment of individuals predisposed to KU. The first explanation, which views the administrator's influence almost solely in instrumental terms, is the basis of Gross' Leadership Obstacle Course (LOC) theory of change (Gross, 1978). This theory holds that administrators are responsible for creating five conditions necessary for the implementation and incorporation of practices: clear understanding of the proposed innovation, skills and capabilities for carrying it out, materials and equipment, compatible organizational arrangements, and motivation of participants. If administrators fail to provide these conditions (where they do not already exist) personnel will be discouraged or thwarted in their KU efforts, especially in the implementation phase.

This theory is fine as far as it goes, but in the final analysis it is a normative rather than a predictive theory, that is, it stipulates what someone ought to do rather than the circumstances under which he is inclined to do it. In other words, the key variable is shifted to another level of the system, but this variable itself remains unexplained. This is curious inasmuch as Gross prefaced his discussion of the LOC theory with complaints about the "atheoretical" nature of the literature on educational change processes; and concurred with Giaquinta's (1973:197) criticisms that the primary concern of organizational change efforts has been with "precipitating change rather than studying it" and that the literature fails to explain "how organizations like the schools vary in the degree of speed with which they change." Presumably Gross would answer that such variation is

mainly determined by the extent to which administrators play an instrumental leadership role. This surely is an oversimplification. Further, he fails to say what determines instrumental leadership, and therefore fails to explain the speed even of change that is owing to this factor.

Principals are not the only administrators who supply incentives and disincentives for KU, of course. In smaller systems that are engaged in district-wide change in particular, district level personnel might be equally or more influential. In their study of comprehensive change in rural schools, Rosenblum and Louis (1978:222-223) report that, when the effects of other actors over planning are analytically removed, only the superintendent's influence is positively correlated with implementation. Principals' influence is negatively correlated, and teachers' influence is negligible. They conclude: "the successful implementation of a district-wide change program is most effectively facilitated by a chief administrator who dominates both the planning process and the administrative decision-making in the school system." (p. 226). But here again we need to know what accounts for the relationship between dominance and change.

It is inadequate, moreover, to examine the role of a particular administrative actor without taking into account the influence of other actors in the setting. What needs to be examined is the total structure of influence. Rosenblum and Louis demonstrate the value of this global approach in their analysis of the differential power exerted by teachers, principals, and superintendents in the same setting. What emerges from their analysis is quite interesting because it suggests that the influence of the superintendent will be subverted by principals and teachers when the latter also

have power. Further, it seems that principals and teachers will use their influence to promote implementation if the superintendent's power is constrained. As the researchers report: ". . .when the superintendents' influence on planning is high, both principal and teacher planning influence are negatively associated with implementation. But, under conditions of low superintendent influence, both teacher and principal influence are positively associated with change" (pp. 225-226). This is not the case with the relationship between teachers and principals, however: implementation is slightly more likely to occur when both are influential. What seems to be operating, then, is a "competitive tension" between school and district levels with "major implications for the process of initiating and implementing planned change on a district-wide level" (p. 228).

This pattern of findings gives us an important clue to the circumstances that determine whether the exertion of power is an incentive or a disincentive for KU. Part of the answer seems to reside in the power held by other actors in the system: if they have little influence, then top down directives will tend to be complied with; if they have considerable influence of their own, then such directives will serve as a disincentive because they will threaten concentrations of power at lower levels. Under the first circumstance, power is a negative incentive; under the second, it is a negative disincentive because one's autonomy is threatened with diminution. In the latter situation, one stands to be penalized for KU by loss of autonomy, a penalty that exceeds any other possible penalties for non-compliance with directives.

It is probable that in larger, non-rural districts this pattern also occurs between principals and teachers. The intimacy between them in small

isolated schools probably invites a closing of ranks vis-a-vis the district level, while the greater social distance in larger schools might involve them in the same kind of "competitive tension" as occurs between school and district level. The answer to the question of whether internal power is an incentive or disincentive for KU, then, is a conditional one, and the conditions seem to be: (1) social distance between levels, and (2) the distribution of power among status occupants.

This sort of analysis is far too rare in the study of KU and of organizational change generally. In the field of educational change in particular, the exercise of power of any kind seems to be viewed with distaste. While there are excellent reasons for fostering a more democratic climate in schools (to be discussed later), school systems will probably continue to be structures of dominance for a long time to come. These structures can be used and are used to initiate and implement new knowledge. We have seen that new administrators foster adoptions and that superintendents in rural schools are often decisive in promoting implementation. Nor is there any reason to believe that the positive influence of administrators on KU is purely of an instrumental kind. It may arise from symbolic leadership, negotiation, or sheer authoritative commands, among other reasons. Further, it appears that the "formalization" of the structure in general is conducive to KU (Rosenblum and Louis, 1978:236-239). The implications of such findings for loose-coupling theory, and for the conditions under which power is a viable form of change agency, need to be carefully studied and thought out.

Briefly, the importance of symbolic leadership on the part of principals is suggested by Lortie's (1975:199) research. When teachers were asked to

discuss their obligations to the principal, "A large proportion (63 percent) said that they owe the principal the fulfillment of their role obligations, the assurance of work fully and conscientiously done. It is as if the teachers are making the principal the personification of their work conscience — they project their sense of duty onto him." Such attitudes, which are a far cry from the instrumental relationship prescribed by Gross, would seem to favor automatic compliance with KU incentives of the principal. Of course, respect of this kind is probably conditional upon the principal's attention to teachers' needs for support, autonomy, and so forth. Thus, Katz and Kahn (1966:344) refer to "the gratification a person may find in the praise of a powerful and respected figure. Such a person wants to do things which will insure continued approbation from his superior, even without the implication of upgrading and higher pay." Symbolic leadership, therefore, might be highly variable. And perhaps its absence is more likely to prevent KU when the superordinate initiates a change effort than its presence is likely to foster it. Some research on this issue would seem to be called for.

But whatever the reason for the strategic importance of superordinates, their influence raises the question of the incentives/disincentives for KU that operate on educational managers themselves. Earlier we discussed external influences; here we are concerned with those generated within the educational system. In approaching this issue, one must realize that two characteristics sharply separate administrators from teachers: (1) administrators must not only be concerned with their own role efficiency, but must worry about the role efficiency of others; and (2) administrators are seen as the representatives of their organization and are therefore identified with whatever occurs therein. The combination of these characteristics

promotes considerable caution toward major KU enterprises. For not only is there risk of jeopardizing the role efficiencies that prevail in the system, but the superordinate will be held responsible for failure regardless of his participation in the KU process.

One of the main reasons that principals are reluctant to assume responsibility for the outcomes of a KU effort (apart from personal or professional shortcomings, which may be shared with teachers) is probably insecurity vis-a-vis any of their several significant role partners, including parents, district administrators, teachers, other principals (Smith and Keith, 19 :23 emphasize this factor), and students. This inventory, incidentally, underscores the extent to which principals are men-in-the-middle. Not only may the expectations of one role partner conflict with those of another, but the very success of principals in articulating their role-set and in exploiting the advantages of role accumulation (e.g., using resources from one role in meeting the expectations of another) might depend upon the degree of stability in the system. Under these circumstances, KU that is least visible and least disruptive might be favored.

This suggests that the utilization of information instead of the adoption and implementation of holistic practices is preferred. And indeed, we find that principals do place great value on information that "provides for new ideas or different viewpoints" and "keeps me aware of new developments," and much more so than teachers (Hood and Blackwell, 1976:VI-13), despite their reluctance to push for innovation. This suggests that principals might be appropriately characterized as closet knowledge utilizers.

This picture of structurally induced caution is perhaps more applicable to administrators who are content with their current position. Those who are striving for higher positions are probably more likely to embrace new practices or change approaches as a means of gaining material benefits through promotion. Such incentives can pose a distinct hindrance to serious KU efforts. A case study of the RDU project (Abt, forthcoming) shows how self-aggrandizement can jeopardize continuance of a change project when the local, upwardly mobile leader finally gains the position that he had coveted. Having been motivated to engage in KU by the prospect of a district level appointment, the project leader turned his back on the project after gaining his objective, but retained formal control over the project. As a consequence, the project was brought to an absolute standstill.

Another structurally induced source of KU on the part of administrators is their succession to a new position in another school or district. The well known relationship between innovativeness and succession by outsiders (Carlson, 1975 ; Nelson, 1975:279) indicates that administrators who gain new positions elsewhere either need to prove themselves, do not feel restrained by old loyalties, or have more cosmopolitan resources to draw on. This early flair for innovation does not endure, however, since the longer a principal holds his job, the less innovative he becomes (Nelson, 1975:271). Greater innovativeness is found only among those who are <u>both</u> young and new to the position (Nelson, 1975:274). Is this attrition of innovative fervor due to having successfully gained tenure, of mounting organizational loyalties that restrain action, of

* The importance of material benefits in general to male administrators should not be underrated. Gross and Trask (1976:75) found that financials reasons for becoming a principal were <u>most</u> often cited by male principals (51% so responding). Female principals were much less likely to cite this factor.

disappointment with past KU efforts undertaken in a spirit of naive idealism, or what? We do not know why it wanes any more than we know why it waxes.

An enabling condition for KU leadership of principals is their decision-making authority. Rosenblum and Louis (1978:230-231) found that the principal's "planning influence" in the implementation of comprehensive change in rural schools was unrelated to change quality (degree of difference from earlier situation). This would seem to contradict Gross' conclusion about the principal's instrumental role, which conclusion incidentally was based on the same evaluation data albeit in qualitative form. But when Rosenblum and Louis introduced the variable of principal's "decision-making authority" and observed its interaction with planning influence, they found that planning influence yielded a high correlation with quality of change. This finding raises the question of the sources of principals' decision-making authority as distinct from their influence on the planning of change efforts. Unfortunately, Rosenblum and Louis do not push their analysis into this domain.

One obvious source of the principal's formal authority is the degree of decentralization in the system. Nelson (1975:287) found that principals in decentralized city systems have higher innovation rates than those in centralized city systems (independently of the principals' age or length of tenure). That this relationship is mainly confined to cities with a high proportion of Black students (p. 82), however, suggests that autonomy fosters KU only when there is an environmental crisis. (Nelson's data were collected in the late 1960's in the hey-day of Black militance.) Thus, a negative incentive stemming from the local context might be necessary to activate the principal's autonomy in behalf of KU.

Despite the critical role of principals in KU, far too little is known about the incentives/disincentives that arise from local political, organizational, and other social pressures. Shifting the primary responsibility for KU to the school manager and leaving it there does not begin to answer this question. Further, the reasons that administrators are often decisive influences on the success of a change effort need to be studied. I have briefly mentioned several alternative explanations, but the available research does not enable us to say under what conditions each explanation is most suitable.

Students as Source of Psychic Rewards

As mentioned earlier, Lortie (1975) maintains that teachers are primarily attuned to task-related feedback from students as a source of daily reward. All other sources "pale in comparison with teachers' exchanges with students and feeling that students have learned" (p. 106). This generalization has been widely cited in the literature and therefore deserves careful scrutiny.

When teachers were asked in an NEA survey (cited by Lortie) to identify "sources of professional satisfaction and encouragement," 80 per cent selected "students," and 18 per cent said "teaching in general." All other sources — working conditions, facilities, parents, administrators, and the community — received fewer mentions. In Lortie's own research, the most frequent responses to questions about rewards of work entailed student learning. Eighty-six per cent selected "knowing that I have 'reached' students and they have learned," while only small percentages selected other psychic rewards, such as associations with young people, or the chance to study, read, and plan for classes.

Silver explains the strong relationship between job satisfaction and peer relations in terms of a "defensive subculture." And she notes that, "Even though peer relations are less likely to be good in low- than in high-SES schools, their influence on adaptations in the schools is greater in low- than in high-SES schools. . .The effects of the teachers' subculture are stronger in low-SES schools, where threats to professional status are greater." (p. 200) I shall return to the effects of interpersonal relationships in a moment, but first we need to consider a disturbing implication of teachers' interest in student learning as a source of incentives for KU.

While we do not have data on the relationship between a perception of students' learning difficulties and actual engagement in KU, it should be noted that one of the most frequent reasons for seeking information is to "identify new educational programs, materials, methods, or procedures" (Hood and Blackwell, 1976:VII-4). There is little question, then, that teachers are oriented to classroom activities in their knowledge seeking behavior. But owing to the very difficulty of assessing one's impact on pupils, which Lortie (1975:142) calls one of the "endemic uncertainties" of teaching, together with the importance of student learning as a source of psychic rewards, teachers might tend to <u>minimize or rationalize student failure</u>. As Lortie (1964:Ch. 9) observes, "we suspect that teachers sometimes define the desirable outcomes of their work in ways which simplify self-assessment and make it possible to enjoy the gratification of getting results." This tendency is probably most marked in the elementary grades where teachers identify personally with "my class" (McPherson, 1972). It is not surprising, then, that when Silver

asked the Washington, D.C., teachers how satisfied they were with the quality of their students' work, a remarkably high 60 per cent claimed to be "very" or "somewhat" satisfied; and when asked how much students liked school, 70 per cent responded "very much" or "quite a bit." As Silver remarks, "teachers' evaluation of students' achievement may reflect indirect evaluation of their own ability to teach successfully. Is it also possible that teachers reported that their students liked school in order to protect their own professional status?" (Silver, 1973:100-101).

These considerations point to a profound dilemma for KU advocates. Clearer assessments of teachers' influence on students might be necessary to motivate teachers to search for better practices or products, but they might also undermine one of the main sources of teachers' self-esteem, and hence of day-to-day motivation in the teaching role.

I suspect, however, that teachers are more likely to accept such assessments when they enjoy social support in their environment. But this also raises a dilemma, for such support could make it easier to form a united front in resisting careful student assessments and KU efforts. Thus, the effects of interpersonal relationships are by no means uniformly favorable to KU. Let us turn, then, to a more careful analysis of interpersonal relationships.

Interpersonal Relationships Among Peers

Silver's demonstration of the importance of the teachers' subculture as a source of job satisfaction is provocative because it points to the significance of an underrated area of teachers' lives. While the influence of the work group on individual behavior and attitudes has been one

of the main topics of occupational research for years, it has been somewhat neglected by educational researchers, many of whom stress the "isolation" of the teacher without noting his/her embeddedness in a system of peer norms. Lortie devotes only a few pages to the topic, but provides evidence of the pressure exerted by teachers to be "a good colleague" (Lortie, 1975:194). Havelock (1969) devotes a chapter to "interpersonal linkage" but cites few empirical studies in education. The general conclusion from Silver's research, therefore, is worth recording here:

> . . .the emergence of a subculture is sometimes a response to status threats that affect the members of a group. It seems that teachers' professional role and status in schools are in some ways threatened by both students and administration. This very insecurity, to which their professional, social, and psychological isolation contributes, leads to creation of a defensive subculture by means of which they insulate themselves from failure. (pp. 197-198)
>
> That peer relations in the school are neither linked with the working process nor organized specifically to provide better services to students leads to [the conclusion that its function is] mainly to preserve teachers' own security. Indeed, support from peers is essential to teachers' coping with problems in the schools. (p. 199)

The functional potency of teachers' subculture is here underscored because it is very likely that group norms, rewards, and activities are key mediators between new knowledge and individual participation. This influence may operate <u>directly</u> through the formal or informal sharing of ideas and practices, or <u>indirectly</u> through the climate of values supported by the staff.

The extent of direct, deliberate interpersonal influence that takes place is often underrated. Despite the common image of teachers as being <u>incommunicato</u> from one another and shunning the discussion of

professional problems, there is a good deal of information sharing, as reported earlier in our discussion of the "ripple effect" of external resources introduced by linkers.* The frequency of sharing also means that the opportunity to provide others with information can serve as a distinct incentive for personal KU. One of the benefits of using new knowledge mentioned by 15 per cent of the clients in the Pilot State Dissemination Project, for example, was that "other school or agency personnel appreciated me more" (Sieber, Louis, and Metzger, 1972:521). Moreover, the possibility that this response was somewhat restrained is suggested by the fact that a much larger proportion of the clients (50%) cited as a specific benefit "it gave me new resources for helping other staff members." Not all such sharing was informal, by the way, since many of the clients were already involved in specific projects with others. And again, we find that such clients were more likely to make use of the information than those who were not thusly involved. This confirms the conclusion of Chester and Fox (1967) that staff interaction centered on professional issues is a critical mechanism for KU.

The indirect influence of the peer climate on KU is also strong. In a study of nine elementary and secondary schools, Chester, Schmuck, and Lippitt (1963) divided the schools into four types according to whether support for new teaching practices was perceived from both principal and teachers, from the principal only, from teachers only, or from neither. They found that perceived support solely from teachers was related to innovative classroom behavior to the same degree as perceived support solely from principals, and that either type of support prompted

* In addition, Lin et al (1966) found that three-quarters of the high school personnel they studied said that they had first heard about a particular innovation in their schools through interpersonal sources. Other researchers have found a great deal of overlap between teachers' closest friends, closest associates, and information sources (Hotvedt, 1973; Wolf, 1973).

greater innovativeness than occurred in their absence. (Support from both sources simultaneously yielded only slightly higher scores.) These findings are a sobering reminder that the peer group is as important a source of pressure for implementation of new practices as administrators.

Whether participation in major change efforts serves mainly to integrate the staff rather than to effect change is an important question, however. No doubt the former, "latent function" is quite important. Rosenblum and Louis (1978:210) found that "collegiality" was more highly related to scope of change (number of students and teachers involved) than to the qualitative difference made by the change in the Rural Experimental Schools project. This suggests that a strong social network contributes mainly to participation rather than to effectiveness — or put slightly differently, a healthy social climate ensures breadth of implementation more than impact. Similarly, Berman and Pauly (1975:56) found that perceived staff morale was related to ease and fidelity of implementation, but not to actual change in teacher behavior. Nevertheless, schools with high staff morale more often believed that their project goals had been achieved. A case study by Gold and Miles (1978) of the founding of a new school revealed that intensive group processes diverted attention from dealing with a number of important issues. These findings suggest that interpersonal relationships serve as an important source of operational incentives for KU, but a weaker source of consummatory incentives associated with task achievement. This suggests the possibility of a certain amount of goal displacement from innovative effectiveness to social integration.*

* The integrative function of KU might also embrace administrators, as clearly revealed in two of the RDU case studies (Abt, forthcoming). In one case an in-service project was undertaken with the express purpose of reuniting teachers and administrators following dispute over a new contract.

The peer culture of a school is not homogeneous, of course, but divisible into subgroups and into informal leaders and followers. This social differentiation makes prediction of KU behavior in a particular school on the basis of global assessments of attitudes quite difficult. Differentiation permits the emergence of cliques that advocate KU or reform in general, and raises the spectre of inter-group conflict and resistance to KU advocates among peers. We have noted that very often a small cell of enthusiasts is mainly responsible for initiation and follow-through of KU efforts in schools (Mann, 1976:324; Havelock, 1973:186).* It is highly doubtful, however, that such endigenous efforts are invariably successful. Walker (1976) notes that innovative proposals can polarize the faculty into conflict groups; and Chesler and Fox (1967) report research that demonstrates resistance to new teachers who wish to implement new ideas. Thus, the specific kinds of social relationships found in schools may profoundly shape their KU tendencies.

Havelock (1969:7-13) points out that innovators are not necessarily opinion leaders, and indeed are often viewed as troublesome mavericks. Havelock (p. 7-11) thus reminds us of one of the best documented conclusions about organizational KU:

> There is a large body of literature supporting the view that the vast majority of those who eventually adopt new ideas do so because they are influenced by some other member of their own group. When this pattern of imitation is focussed on one particular person and is stable over time and across a number of innovations, we can speak of "opinion leadership." . . . but we should not assume that such leadership, when found, will be progressive, i.e., that it will encourage the adoption of new ideas.

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*Recall also Fullan and Miles' (1978:III-52) conclusion from their review of OD research: ". . .given the more important role of insiders, the role of external change agents should be directed at providing support and transferring knowledge, materials, skills, etc., to key insiders."

Katz (1957) states that opinion leaders serve three functions. They provide information, a standard of conformity, and social support for adoption decisions. Thus, opinion leaders are a source of informal incentives for KU in addition to being a source of sheer information.

While the strategic role of opinion leaders in KU would seem to offer a critical leverage point for KU advocates, this opportunity seems to be rarely exploited in the field of educational dissemination. It is my understanding that only one of the 39 State Dissemination Capacity Building projects, for example, is making a systematic effort to identify opinion leaders in local schools. Such approaches exploit the idea of "market segmentation," which "allows limited funds to be targeted rather than spread out in a futile effort to capture every potential buyer" (Turnbull, Thorn, and Hutchins, 1974:10). And as these authorities point out, "The concept of market segmentation has had only the most rudimentary use in education, but it seems to hold promise." And no doubt the use of informal networks has been even more rudimentary than the use of formal ones.

Another means of tapping the reservoir of internal linkage motivation is to increase the opportunity for visibility of performance combined with team meetings to discuss pupil and curriculum problems. Cohen (1973) found that the more teachers wished to help young teachers, lead workshops, share their styles and techniques with others, and engage in supervisory evaluations of other teachers (items combined in a index of "professional ambitions") the lower their job satisfaction in traditional schools, but the higher their satisfaction in open-space schools that provided for increased visibility of performance and team discussion. Clearly, there are ways

of restructuring schools that make it possible for internal linkers to operate more effectively. The present system of self-contained classrooms acts as a depressant on professional leadership. (For further discussion of the role of internal linkers, see the paper by Fullan in the present synthesis.)

It is nevertheless true that even in traditionally structured settings, there are leadership cliques that emerge informally. But very little is known about what causes individuals to coalesce naturally around professional problems, to press for reform, and to engage in KU as a grassroots effort. Subcultures usually emerge as a result of shared status problems or shared background characteristics (demographic or cultural). The circumstances under which cells of teachers and perhaps administrators spontaneously begin studying, planning, or working together, and the factors that determine their effectiveness, deserve serious investigation.* Such research, it should be noted, cannot adequately be done in connection with planned change interventions from outside agencies. It must be conducted in less artificial settings, that is, settings that are not under pressure from the top for initiation of major experimental projects that almost always mandate team approaches. External intervention, rather, should be built upon sociological understanding of the sources of natural leadership and the emergence of informal KU subcultures.

So far we have been concerned only with relationships on-the-job. What about the role of an occupational community based on off-the-job socializing? Blauner (1960) asserts that there are three essential features of occupational communities: (1) workers in their off-hours spend more

* The possible importance of a career advancement incentive is discussed later.

time with each other than with a cross section of occupational types; (2) the participants talk shop during their off-hours intercourse; and (3) they form reference groups that set standards of behavior and a system of status and rank that guide conduct. The consequences are greater satisfaction with social relationships on-the-job, greater devotion to one's line of work, greater insulation from the public's image of low status, and greater influence of one's skill and expertise on one's status and prestige. Conceivably, such rewards of an occupational community among educators could override the many disincentives for professional effort and commitment found within the educational organizations. Why do educators not participate in occupational communities?

Blauner notes that occupational communities develop in industries that have grown up in isolated, small communities (mining, textiles) and in industries with off-hours shifts (printing, steel, fire fighting, railroads). He takes for granted that the occupation is the sole occupation of the workers he cites and that only males are involved. Many teachers in contrast have second jobs, move in and out of the profession, or (if females) have families to tend. Thus, there are alternative sources of social identity for many educators. Moreover, even unmarried female teachers are not free to hang out in the local bars, pool halls, and bowling alleys, which are the prime (if not primal) haunts of male occupational communities.

To some extent Teacher Centers might have answered the need for occupational communities among teachers. This would be an interesting question to pursue. But surely there are additional means of fostering the growth of occupational communities among educators, such as recreational halls

specifically set aside for district personnel, film clubs restricted to educators, or home seminars somewhat like the Great Books Club to discuss "background" issues in education. Although seemingly remote from concern for KU, the fostering of strong, local occupational communities among school personnel might have more impact on professional initiative for reform and enlightened KU than many of the strategies currently being so diligently pursued within schools by external KU sponsors.

Our neglect of this topic reminds us once again that interpersonal relationships as leverages for KU have barely begun to be explored in American education.

Task/Role Autonomy

We noted at several points in our earlier discussion of external incentives/disincentives that KU efforts which threaten to deprive school personnel of task/role autonomy usually fail. By the same token, those that tend to enhance autonomy (e.g., local adaptation or development of materials, internal linkers, genuine participation in decision-making, etc.), or which at least acquiesce to existing structures of autonomy, are more likely to succeed. Now it is necessary to look more closely at this important incentive.

Task/role autonomy does not denote a libertarian disengagement from affairs, but a desire to control one's activities and working conditions. Earlier we noted that sociologists have distinguished three types of control that served as sources of job satisfaction: control over time, physical movement, and pace of work; control over the technical and social environment; and control as freedom from direct supervision. Since research

has not clearly distinguished between these three types of control with respect to teachers, the concept of task/role autonomy will here be applied to all three dimensions on the assumption that they are highly interrelated. However, I will try to distinguish between control over one's classroom and control over decisions that affect the larger setting as well, especially with regard to change projects that involve a number of individuals.

Because teachers are engaged in a complex, nonroutine technology, they require classroom autonomy to make instantaneous decisions based on subtle feedback cues, to develop routines that seem most suitable to themselves and their clients, and to shield themselves from close supervision while performing a diffuse role that entails high risk. Also, because of the low commitment to the occupation on the part of many teachers, as discussed earlier, task/role autonomy is buttressed by personal immunity to administrative sanctions for coordination (Lortie's "individualism).

Task/role autonomy in turn causes teachers to focus their energies on instructional activities in the classroom, lowers the visibility of good teaching, and retards the accumulation of a technical culture among peers. Even if the reward system were geared to individual performance, therefore, it would be difficult to implement because of the low visibility of performance. Further, the absence of feedback to administrators regarding teachers' "productivity" prevents them from identifying weaknesses in the system (except as these are brought to their attention by parents, pupils, or other teachers). And finally, as we noted at several points in our earlier discussion of the RDD&E system, prefabricated practices and expert consultants are often resisted or substantially modified because of the need for "ownership."

Under these circumstances, it is not surprising that degree of classroom autonomy was found by Rosenblum and Louis (1978:220) to be negatively related to implementation of an externally introduced change project. However, this negative relationship was found to occur only under conditions of high collegiality (pp. 214-215). This suggests that only when teachers have support from their peers do they feel sufficiently secure to use their autonomy to resist external intervention. More generally, this finding points to the vital function of peer relationships in a formally segmented organization. Precisely because of role-performance isolation, teachers need the buffering of good interpersonal relationships to sustain them, for isolation is bearable only when social support is guaranteed.

Earlier we saw that peer relationships were a major source of job satisfaction to teachers in a large urban system, a source that became especially salient in low SES schools (Silver, 1973). Owing to an emphasis in organizational theory on the segmentalized character of teaching, the critical nature of peer relationships has been obscured. In fact, it has been assumed that classroom autonomy and peer group integration are opposed to one another. But while peer interactions might not center on teaching and learning problems, as many observers have pointed out, they are still a valued source of gratification. In effect, they afford a sense of status security that makes it possible to function under conditions of classroom autonomy and to actively resist threats to autonomy posed by unwanted interventions.

Turning to control over decisions that affect the setting <u>beyond</u> an individual's classroom, we are brought to consider the role of participatory

decision-making. Few issues in the study of KU have ignited more interest and debate, and few have been confronted with less clarity, conceptually and empirically. But first, one should frankly note that a major reason for endorsing participatory decision-making is its evocation of the democratic ethos. Nor is this a rationale that can be lightly dismissed, although it seems to be staunchly evaded in the literature. Indeed, one suspects that much of the controversy about "power-equalization" has been sparked by researchers who feel called upon to purge social theory of cultural values. What this knighthood of science overlooks is that KU, innovation, and organizational change are also cultural values.

If we feel that professionals (at least) who are to be affected by a decision should have the right to participate in that decision, then participatory decision-making should be employed regardless of its implications for KU. As a paramount value in a democratic society, forthright endorsement of participation should not cause embarrassment even in scientific circles. There are some values that have priority over most forms of KU, and many will agree that this is one of them.* The value of participation to teachers is revealed by Silver's data (1973:123,126). She found that participation in decision-making was highly related to job satisfaction in the Washington, D.C., school system. In fact, it appears that such participation accounts to a large extent for the relationship between sense of classroom autonomy and job satisfaction. This strongly suggests that enjoyment of classroom autonomy does not stem simply from retreating into the classroom and closing the door, but from a larger sense of being able

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* I would exclude from this dictum efforts to equalize opportunity for racial and minority groups, a concern which should take priority over occupational democracy.

to influence decisions by others with regard to one's teaching conditions and activities. This interpretation is consistent with findings by Meyer and Cohen (1970:Ch. 7) in their research on open schools. "The sense of autonomy appears to grow out of the increased overall authority of the teacher group," they write. "It seems that a worker who is simply left on his own to make decisions, without delegation of power to make those decisions, does not necessarily feel autonomous; he may simply feel neglected." *

The question to be posed in a democratic society, then, is not should there be participatory decision-making in KU efforts (that are not clearly justified by egalitarian demands), but under what circumstances will it contribute to KU? And here, most happily, research prompts the same question as the democratic ethos; for studies have found that participation contributes to KU about as often as not. As Giaquinta (1973:188) concluded with respect to the general organizational literature: ". . .on the basis of the empirical work to date, little can be said about the effects of participation strategies as compared to strategies where administrators introduce change without prior rank-and-file involvement in the decisions." This does not mean that research on participation in education has failed to find salutary effects for KU. Berman and Pauly (1975:61) reported that if "teachers felt they did not participate in day-to-day decisions as the project was implemented, implementation was more difficult, and the chances of success, of fidelity to the project design, and of teacher change was reduced." Several case studies of educational change have reported similar findings. But some have reported the opposite. On the basis of case

* Like Silver, however, Meyer and Cohen also found that sense of classroom autonomy and participation were independently related to job satisfaction. Thus, classroom autonomy does contribute satisfaction on its own.

studies by Charters, Jr. and Pellegrin (1973), and Smith and Keith (1971), Fullan and Pomfret (1975:98) conclude that "having the right to decide may lead to confusion, frustration, role overload, and eventually rejection of the innovation." And Corwin (1973:265) found that teachers' participation in local decisions about the Teachers Corps simply gave them a welcome opportunity to sabotage the project.

One of the chief reasons for the ambiguous status of participation is its complexity as a source of incentives/disincentives. On the one hand, it offers several performance related rewards, such as control, opportunity for value expression (i.e., "professionalism" and "democracy"), opportunity to expand horizons, and actual problem-solving; and it also offers interpersonal rewards, a certain amount of new power, and material perquisites (special resources, time off, possible compensation, etc.). It might even contribute to career advancement. On the other hand, it offers the disincentives of interpersonal conflict or disagreement with peers, increased visibility of classroom performance, overload, risk of failure as a decision-making participant, and possibly reduced power or role autonomy because of coercive or Machiavellian administrators.

According to the research literature, whether the incentives of participation will exceed the disincentives seems to depend upon several conditions (Zaltman, Duncan, and Holbek, 1973:85; Wilson, 1966:212; Fullan and Pomfret, 1975:87-91; Giaquinta, 1973:189; Corwin, 1973:265):

- the degree to which the change project was imposed on members of the decision-making group by administrators
- the manner in which the group operates, the group process skills of members, and the group's structure of authority

- prior relationships among members, including schisms and the balance of power among subgroups
- the authority of the group vis-a-vis administrators, on the one hand, and over the development and implementation of the innovation, on the other
- the relevance of the group's task to the members' achievement of performance goals or to other valued aspects of organizational life
- the incentives and disincentives posed by attributes of the innovation
- the degree of consensus that the group is able to achieve without coercing or alienating members of the minority

In terms of incentives/disincentives, then, features of participation that are required to foster KU would seem to be relevance of the group task to the members' perceived needs or desires, authority to determine tasks and roles without fear of administrative veto, broad basis of representation, valued interpersonal relationships within the decision-making group, voluntarism of participation, and at least avoidance of over-load (interference with role efficiency) if not some means of reducing it.

Career Advancement

The presence or absence of opportunities for career advancement seems to be a significant factor in certain kinds of KU behavior. Due to the "unstaged" character of the educational occupation, this incentive might loom quite large. Since opportunities for significant advancement are very limited and visibility in the traditional teaching role is low, any non-routine activity that engages the attention of status-judges as demonstrating a flair for professional leadership might be seen as useful for advancement. Thus, advocacy and management of highly visible innovations may be inspired

by occupational ambition. As House (1974:76) points out:

> Ambitious teachers are generally important for innovation because they see the investment in relearning as worthwhile for their future. In community colleges those teachers who expected to advance in rank and who expected supervisory positions were most enthusiastic toward innovation. The more ambitious they were, the more enthusiastic they were. In a relatively scarce economy those who envision future rewards through better jobs are the ones willing to invest the extra effort.

With respect to staff development projects studied by Rand, Mann (1976:332) states emphatically:

> The most useful incentive seems to have been the visibility or mobility of project personnel. The more successful projects were run by people who reported changes in their career prospects while the less successful projects were run by people who were comfortably resigned to falling back to classroom teaching at the project's conclusion.

But Mann offers a curious explanation for this pattern of mobility:

> Successful people needed a way to escape from the district and were glad to have it; less successful people could easily sink back into the organizations which they had never challenged.

While it is no doubt true that advocacy of innovation often creates tension and conflict among individuals and groups contending for limited resources (including recognition) that might lead to the advocate's self-expulsion, it seems equally probable that successful advocacy serves consciously as a springboard for career advancement. And even if not conscious in the beginning stages, it might become a more salient motive as the innovation progresses and one's superiors, and even educators elsewhere, begin to take notice.

The consequence for the school of career advancement based on KU is much the same as the consequence of good teachers becoming administrators or good administrators being shifted to higher positions: many of the most qualified personnel are drained off. House (1974:52-53) speculates that

the tendency of KU advocates to be upwardly mobile accounts for "innovation waves." Thus, until schools are able to satisfy the career ambitions of KU advocates within their own walls, a constant process of replacement will be required and KU continuity will be difficult to maintain. Earlier we noted that Cohen (1973) cited the "opportunity to be ambitious" as a major benefit of the open school structure. She does not tell us, however, whether these internal advocates or linkers intended to remain in their local settings. Perhaps it is time to realize that America also has a "brain drain" problem, although an internal one. Moreover, the problem might be expected to become more acute as the non-teaching service sector expands and as talented women become more accepted in male occupations. Indeed, the problem could reach epidemic proportions unless KU advocacy within schools is more generously rewarded.

Legitimation

An incentive for KU that one would expect to arise from the insecure nature of the educational profession is the opportunity to justify or legitimate current practices or plans. We noted earlier that expertise is sometimes used to justify decisions to the community. It also seems likely that the same defensive function is served vis-a-vis colleagues or superordinates. Because of the complex nature of the teaching task and the absence of performance feedback, one would expect personnel to look for knowledge that validated what they were doing or were thinking about doing. Indeed, here we might observe one of the major types of interaction between common knowledge and formal expertise wherein the latter serves as legitimator for the former.

While the legitimative incentive for KU is often alluded to, rarely has it been measured. In fact, Hood and Blackwell (1976) are the only researchers, to my knowledge, who provide quantitative data on the topic. When they asked a group of individuals about purposes for seeking educational information that were "vital for the effective performance of your job," they found that 12% selected the item "support decisions already made." (In frequency of response the item ranked 15 in a battery of 19 items.) Considering that this item was the only one in the battery that might be regarded as illegitimate behavior, and that it was listed at the very end of the battery (which probably underscored its illegitimacy), this response rate is fairly impressive.

It should be borne in mind, however, that Hood and Blackwell's sample for this particular interview survey (which is different from the one that I have cited elsewhere at several points) was very highly opportunistic, and covered everybody involved in education from teachers to legislative aides. Thus, the findings are merely suggestive of the extent to which local personnel seek information for legitimative purposes.

It is interesting, however, that the legitimative purpose turned up in a factor that was dominated by the purpose "to find answers to specific questions related to my work." Since this latter item might be thought to reflect a problem-solving orientation, it would be well to bear in mind that "specific answers" might include resources for legitimating one's prior decisions. Moreover, a canonical analysis of the same data revealed an opposition between those who selected this item (as well as "making or setting policy") and those who frequently prepare or plan teaching/classroom

materials and are concerned with identifying new materials or methods, acquiring new ideas, learning new specialties and identifying new sources of assistance. This strongly suggests that the legitimative function of KU is peculiar to policy makers. Further, these policy makers seem to be less "print-prone" than other users, relying more often on face-to-face discussion, telephone calls, and correspondence as sources of information. Thus, the individual who embraces the legitimative function in a deliberate, self-concious manner relies more on the authoritativeness of informal resources. This suggests that formal information is not seen as carrying sufficient weight for the political purpose of legitimation.

These interpretations are speculative because of the exploratory nature of Hood and Blackwell's data. Their later, mail survey omitted the legitimative function from the battery of purposes, and no doubt a questionnaire checklist is inadequate for studying this incentive. A critical incident approach with probes on the actual uses made of information is necessary to pinpoint the legitimative use of knowledge and its consequences. Such research would seem to be important, since no doubt certain legitimative uses are contrary to the intentions of KU sponsors who wish to enlighten, change attitudes, and alter practices that are ineffective rather than to shore up those that exist. Legitimation could also serve the purpose of defending desirable practices against uninformed critics, of course. The frequency with which either of these uses occurs is a mystery.

Enlightenment as Incentive for KU

The incentives for KU that we have examined so far have been somewhat extraneous to intellectual concerns, with the exception of the "psychic rewards" that teachers are purported to obtain from pupil achievement. The weakness of problem-solving as a mainspring of KU, however, would seem to contradict the importance of such psychic rewards. If student learning is so important to teachers, one might ask, why aren't they interested in doing better by engaging in KU to overcome their "problems?" My hunch is that they are interested in KU, but not in the way that the R&D perspective assumes or endeavors to prescribe. For there are concerns that are not expressible as problems-in-search-of-solutions, at least not without the help of new perspectives. And it might be the latter that educators seek.

Earlier I noted that the R&D enterprise fosters the myth of definitive problems so that it will be able to market its definitive solutions. But suppose that school personnel have an array of diffuse needs, all of which are roughly of equivalent weight? Or as Mann (1976:324) puts it, "Most schools store their needs in a bottomless pit." Under this assumption, definitive problems do not exist, nor is it easy to generate them. Holzner (1974:25) points out that "'problems' — practical or otherwise — are never simple givens, [are] always symbolically constructed and defined (in W. I. Thomas' sense of the definition of the situation), and. . .the mode of the problem definition is embedded in a social and cultural context which limits the range of possible approaches." Thus, Holzner notes that problems come into existence only in terms of certain "structures of relevance." In some fields this structure might be pretty clear-cut, e.g.,

sociologists seek knowledge mainly for publication and for teaching, which are their main roles. Public school teachers also seek knowledge for teaching, but their role is far more complex than that of professors (because of organizational problems, diversity and resistance of pupils, lack of time, etc.) and they are not embedded in an intellectual community that constantly defines and redefines the major issues of their field or speciality. In short, their structure of relevance is diffuse, and may shift depending upon the demands of different role partners (pupils, parents, administrators, peers). This prevents a few needs from becoming focussed and preempting the field, that is, from coalescing into one or a few special problems. To transform the welter of diffuse needs into focussed problems educators might require the stimulus of new alternatives, new frames of reference, or even new jargon so that the structure of relevance gains greater clarity. Indeed, it might be impossible to diagnose needs within an environment that is purged of optional courses of thought and action, which is what the "needs assessment" model purportedly does. In other words, problem definition might be a process of gestation that requires the repeated insemination, to to speak, of plausible options.

If this viewpoint is correct, then the "enlightenment" function of KU, by which I mean the cultivation of new sensibilities and of awareness of options through the broadening of cognitive horizons, must precede the need-identification process, and then become an integral part of that process, if the deduced need is truly to have import. If there is little input in the way of new and stimulating alternatives, then the needs that are identified will tend to be conventional, and commitment to satisfying them will not be generated. Definition of needs will be governed by what administrators say they want, what the government says it is willing to pay for, what

parents demand as a "solution" (e.g., back to basics), or what common-sense categories of thinking and feeling dictate. Thus, the definition process will be little more than a ritualistic response to local pressures and predilections although it purports to be an in-depth search for "performance gaps." And subsequent steps to solve such problems will be only a ceremonial obeisance to reform, as one often finds in the reshuffling of textbook materials by curriculum committees, for example.

I would further argue that the prospect of enlightenment is more appealing to many school personnel than problem-solving. Not only does it engage the personality more deeply, but it supports and affirms the professional role by helping school personnel to understand and articulate diffuse needs, problems, and aspirations by reference to external values and beliefs. In other words, it is a process of self-actualization through professional identification. Further, being up-to-date has a distinct status conferral function in one's interpersonal sphere. And since concrete decisions or actions with their attendant risks of failure are not entailed in simply becoming "better informed," it is a low-risk endeavor. In short, enlightenment promises to satisfy the need for cognitive, affective, and social meaning in one's occupational role, a role that is beset with technical difficulties, self-doubt, role isolation, and low status.

It is also possible that contemporary educators are increasingly caught up in the great march toward a technical-service society (Bell, 1973). As the proportion of workers with specialized competencies and more years of education increases, those in traditional service occupations must upgrade their image of "expertise" just to maintain their social

position. In particular, expansion of the higher paid, more glamorous communications industry threatens to demote the educational profession to the status of intellectual peonage. While this emerging competition for status will drain off a great many educators of ambition and talent into more prestigious occupations, it will also place a premium on knowledge among those who remain. And no doubt this trend will be especially strong in periods of declining school enrollment when the market advantage falls to the buyer. If unionization is the political response, "keeping abreast" may be the cri de coeur of a profession faced with the danger of proletarianization. Now, what does research tell us about the salience of enlightenment as an incentive for KU?

Hood and Blackwell (1976:VII-3) found that the purpose for seeking information that was most frequently given by local educational personnel at all levels (from a list of 9 purposes) was "to help keep me aware of developments and activities in education." Moreover, the second and third most frequently mentioned purposes were "to identify new educational programs, materials, or procedures," and "to identify new sources of assistance." Only then do we come to the purposes of "developing alternative approaches to solving problems" and to "find answers to specific questions arising in relation to my work." In short, the three most common purposes of information seeking pertain to enlightenment.

Nor are these responses dictated by a mistaken view of the inadequacy of educational information for solving specific problems. Help in developing alternative approaches to solving problems is a purpose for seeking information that elicits a low level of satisfaction with extant sources,

according to Hood and Blackwell's (1976:VII-7) data. Greatest satisfaction with information sources tends to be displayed with respect to the three enlightenment purposes. Similarly, Sieber, Louis, and Metzger (1972:521) found that the clients of the Pilot State Dissemination Project checked "I learned something new" as a specific benefit of the information they had received more often than any other in a list of 14 possible benefits (56% so indicating). And the second most frequently checked benefit was "it gave me new resources for helping other staff members," which suggests that it afforded the opportunity to enlighten other personnel. Since the great majority of these clients intended to use the service again, these benefits were apparently of substantial importance. It would appear, then, that enlightenment is a highly gratifying function of KU.

If enlightenment were merely a matter of subjective satisfaction without any bearing on behavior, it would be of little interest. But there are strong reasons to believe that more up-to-date, informed, "tuned in" individuals take more initiative in educational change. The cosmopolitanism of school personnel has often been found to foster innovation. As Mann, et al (1975) report: "Project leaders tended to have had recent experiences with graduate school, which seems to have armed them with some ideas which they then tried to employ. They also seemed to have more academic credentials than their immediate superiors or than their clientele." Moreover, Rosenblum and Louis (1978:187-189) report that school personnel's educational level, modernity (technological level of state where they were previously employed), and amount of professional reading were all highly related to implementation of comprehensive change in the Rural Experimental Schools

program. These measures of cosmopolitanism remind us that the concept of professionalism includes enlightenment as a core ingredient. For professionalism denotes a reference to extraorganizational standards of conduct, a tendency to look beyond the boundaries of the work environment for models of thought and behavior. And a number of studies have found that "the higher the proportion of professionals on an agency's staff, the more receptive to innovative efforts the agency will be" (Yin, et al, 1976:88). That school personnel most frequently seek information for enlightenment purposes, then, may be interpreted as a sign of healthy professionalism.

In addition to professional norms and interpersonal stimulation, an important prod to enlightenment might be what W. I. Thomas called the "wish for new experience." We are all aware that boredom, unrelieved routine, overly familiar scenes and faces can weigh heavily on the spirit. Sarason (1971:161-169) emphasizes the effects of boredom and routine among teachers, including withdrawal from the profession. And while he does not draw implications for KU, he does pose an interesting question: "if teaching becomes neither terribly interesting nor exciting to many teachers, can one expect them to make learning interesting or exciting to children?" How many teachers across America who have flocked to New York City's teacher training institutions for summer credit were basically motivated by the prospect of emotional, cultural, or even physiological stimuli? How many philosophers, engineers, scientists, and sociologists have flocked to their annual meetings for the same reasons? Conventions, demonstrations, attendance at universities, travel abroad — all are important means of expanding horizons for those practitioners who can afford these breaks in routine. But many cannot

afford them, and many others might not feel sufficiently tuned in to professional affairs in the country-at-large or to the educational benefits of travel to take advantage of the opportunities they do have. Travel, scholarships, all expense paid tours of national educational centers, or support for attendance at professional conventions are some measures that might be worth exploring and evaluating as programs for harnessing the "wish for new experience" as a potentially powerful incentive for KU.

The quest for novelty need not be restricted to the enlightenment function, of course. Engagement in concrete change efforts can also satisfy a desire to break routine, apart from an interest in solving problems or improving performance. The image of school personnel as civil service drudges who are more than content to teach the same thing in the same way year after year has prevented us from appreciating the blandishments of novelty, of experimentation, of radical departures from the quotidian as rewarding in themselves. But regardless of the particular way in which the "wish for new experience" is gratified, neither research nor theory nor idle speculation seems to have broached the issue as a vital incentive for KU.

The enlightenment function might be particularly germane to education because of the highly decentralized character of this social sector. Weiss (1979:441-442) notes that the logistical problems of influencing policy making in decentralized sectors are formidable because of the many independent centers of authority that need to be convinced. Accordingly, "A social science idea or analysis may have impact across dispersed policy makers, but seldom through an accumulation of individual social engineering efforts. . .It tends to be conceptual use of social science that spreads ideas

and information through a decentralized sector." Creating a climate of informed opinion, then, might be the best way to reach into the far corners of the educational world. And happily in the case of education, as seen earlier, the market demand is strong.

More directly related to implementation of new practices is the procedure of looking over a range of concrete alternatives as an aid to sharpening one's focus on needs and constraints as well as on possible solutions. A case study of the RDU evaluation (Abt, forthcoming), for example, reports a teacher as noting that "for her and for the other teachers, the products were most useful as generators of ideas, to be used as brainstorming devices." Judging from Berman, et al's emphasis on mutual adaptation, this seems to be a common practice, although these researchers use the language of problem solving rather than awareness raising to characterize this process. The latter, I suspect, is also a very common function of product selection. For only by sifting through an array of concrete options and judging their local appropriateness is one forced to stipulate one's own needs and constraints with ever greater precision. And since the process of self-contained needs identification tends to preclude this process, it might be advisable to offer solutions before and during needs assessment.

It is true that in the absence of other ingredients in the implementation process, this procedure of perusing options and selecting bits and pieces can occur without significant change in practice or teacher behavior, an outcome to which Berman and McLaughlin (1978:16) apply the term "cooptation." But it might also promote genuine change if monitored adequately, and especially if conceptual enlightenment has preceded the picking and choosing

process. In any event, the catalyzing function of new products and practices might be a basic prerequisite of significant change in the classroom in addition to or even in lieu of formal, antecedent need-identification process. For needs can be identified, prioritized, or brought more sharply into focus by reference to external information that describes extant solutions.

Since this emphasis on knowledge as catalyst is part of the classical "diffusion" approach that seems to have been displaced by the problem-solving strategy of educational engineers, it is in grave danger of being ignored. Even the "mutual adaptation" approach advocated by Berman, et al, plays down the role of enlightenment. For mutual adaptation assumes that only after "central needs" have been identified should programs and settings be adjusted to one another. To me this suggests that problems only await discovery, and that such discovery properly takes place in a sort of needs assessment vacuum. Some of the world's religious devotees might have gained enlightenment through the contemplation of navels, but it may be doubted that this is an optimal path for American educators.

In sum, the enlightenment function might be subdivided into three sub-functions: (1) the inducement of an informed, cosmopolitan climate of opinion; (2) the infusion of new concepts that underlie particular change efforts; and (3) the provision of options and of specific bits of advice, products, and practices for creative adaptation to local settings. And perhaps the success of the second sub-function is dependent on the first, and that of the third on the second.

A major problem with the enlightenment function in general is that it is singularly difficult to measure in any direct fashion. One can ask

teachers if they implemented a practice or solved a problem and then look inside their classrooms or test their pupils, but one cannot look inside the heads of those who claim to have learned something new, and educational personnel would probably be appalled by the idea of being administered tests by program evaluators (although it is not inconceivable that less obtrusive measures could be designed). Nor is it easy to document the particular contributions of cumulative learning to actual practice. Perhaps these measurement problems partly account for the fact that the enlightenment function of KU is so little studied, even though it appears to provide the most potent performance-related incentive for knowledge utilization in education.

Here is a whole domain of research that awaits exploration, one that presents both methodological and substantive challenges. Some specific questions might be: how is knowledge from various sources sifted and integrated into the frames of reference of personnel? does enlightenment contribute to improved teaching and learning, and if so, how? is there a necessary sequence of the three sub-functions mentioned above for genuine change to occur? does enlightenment contribute to other aspects of educational roles, such as legitimation, pride of craft, prestige, or professional morale in general? what types of personnel are most susceptible to this incentive? what group processes can be designed to stimulate and direct the enlightenment function locally? what role does an occupational community play in this respect? what are the barriers and disincentives to enlightenment in the educational system?

Note that questions of this ilk are often asked about the problem-solving function of KU, an incentive that we have found to be only moderately

important, if at all. Further, it is possible that without the enlightenment function problem-solving efforts will be unsuccessful. It is time, then, that we turned our attention to one of the most significant incentives for KU, even if it is bothersome to measure and not legitimized by the technological obsession with the matching of definitive solutions to definitive problems.

CHAPTER 4

Local Incentive Systems

Their Measurement

Individual schools do not provide incentives/disincentives for KU in a random fashion, nor are all schools and districts alike the availability of particular inducements and the way in which these are allocated. Unfortunately, research on variation in the KU incentive systems of schools is lacking. My approach, therefore, will be first to suggest some dimensions for describing local incentive systems in general, and second to speculate about global types and their sources and consequences.

Some major dimension for depicitng the incentive structure of local settings are shown in the accompanying list. Types of inducements refers to those listed in the taxonomy in Chapter 1. It should be stressed, however, that the threatened deprivation of existing rewards as a negative incentive should also be measured to permit characterization of settings according to emphasis on rewards versus penalties. The "punishment centered" bureaucracy, according to Gouldner (19) is a distinct type. Many schools that emphasize routine and discipline might be characterized in this way, although perhaps not to the extent of some non-professional organizations. In such settings KU might be viewed purely and simply as a matter of administrative mandate with threats of punishment for non-compliance or failure to be successful that are only slightly veiled. Under what conditions do such punitive climates foster or hinder KU?

It is also of importance to distinquish between perceived and actual

Dimensions of Local Incentive Systems

Types of inducements (negative/positive, incentives/disincentives)

- Perceived and actual
- Valued and non-valued

Structure

- Distribution among sub-parts of organization
  - Horizontal
  - Vertical — number of levels, height, peakedness

Allocation

- Congruence between different reward hierarchies
- Formalization, predictability
- Consensus among allocators
- Bases
  - Performance of various kinds
  - Incumbency
  - Personal attributes

Sources

- Internal to organization
- External to organization

Scarcity/abundance of inducements

Predispositions of personnel

- Client-oriented
- Job oriented
- Career oriented
- Etc.

rewards. For it may well be the case, as with role expectations (Gross, Mason, and McEachern, 196), that only perceptions of the interpersonal environment influence behavior. But there is the possibility that personnel misperceive the availability of rewards for certain actions, a phenomenon that deserves study in its own right. Thus, Stephens (1974) found a good deal of "pluralistic ignorance" among school personnel with regard to norms supportive of innovation, i.e., "greater perceived agreement for restrictive norms, but greater actual endorsement of supportive norms."

But the mere identification of rewards and penalties might not be adequate since organizational personnel are often simply indifferent to certain inducements or penalties. This might be especially likely in schools because of the extraorganizational reference of professionally oriented staff and their relative immunity from supervision and control. Thus, it is necessary to determine to what extent different rewards are valued and different penalties are viewed as trully harmful.

Next, one would wish to study the distribution of actual, perceived, and valued incentives among the part of the organization. Are high school personnel less susceptible to certain incentives for KU than elementary personnel, as suggested by some case studies of innovation? Are the incentives for administrators and teachers different, as suggested by a number of observers who stress the importance of institutional security to administrators and that of pupil performance to teachers? And what about specialists — do their inducements overlap with those of administrators and teachers because of their double reference in many settings?

Perhaps there are even difference among departments at the junior and senior high school levels.

As with positive and negative incentives, incidentally, one should study the perception and actual availability of disincentives for KU. Since incentive theory postulates that behavior is governed by the relative weight of incentives and disincentives, it is vitally important to measure the latter. And here again we might find a good deal of pluralistic ignorance that accounts for non-KU.

We next come to the question of how rewards are distributed vertically. Many have commented on the flatness of the reward structure in education, but few have sought to determine the effect of variations in whatever "peakeness" does exist. House (1974:97-98) notes that there are two "generic strategies to radical restructuring of the incentive and information structure of the school." One entails equalizing the power of teachers relative to administrators so that they interact as status-judges, which House believes "feeds professional ambition without changing vertical ambition and substitutes intrinsic rewards for more extrinsic ones." The other way is to introduce more differentiation among teachers with graduated rewards, such as merit pay or ranks, for different levels of performance, which House thinks only increases the power of administrators. But there are probably many variations along a scale from complete and equal teacher interaction as colleagues and a meritocratic structure presided over by administrators. The consequences of these variations for KU are not well

understood. (Meyer, et al (1970), for example, were unable to explain why teachers in open-space schools displayed more job satisfaction even after controlling for autonomy and group influence.) A primary task in investigating the issue would be to measure the number of levels and the peakedness of the reward hierarchy in different schools. This should be done with respect to material benefits but also by taking into account the social and political rewards that are allotted to different formal and informal levels. Presumably the more peaked the hierarchy, the greater the referent power of those above and the greater the competition for higher rank. If the KU orientations of individuals at various levels were also measured, one might be able to determine how the vertical distribution of rewards affects the extent of KU throughout the system.

The allocation system is another feature of reward structures. An important aspect of allocation is the congruence between rankings on different scales of reward. Thus, pay, autonomy, and prestige might or might not be in line for individuals. Incongruence is believed by sociologists to foster alienation and rebellion. Still other aspects of the allocation system are predictability, formalization and visibility of criteria, and consensus among those who do the allocating. For our purposes, however, by far the most important allocation aspect is the bases for giving rewards. As noted in Chapter 1, rewards may be rendered for role occupancy or for role performance. But then one must also distinguish between different types of role performance. Being a good disciplinarian is not the same as being an innovator, and indeed might conflict with innovativeness on occasion. Also, there are different attributes of

persons who are rewarded primarily for role incumbency (race, age, sex, personality differences, etc.), and these attributes might also serve as bases for reward. Clearly, the bases for allocation of rewards and their institutional sources are central issues in the study of local incentive structures.

But let us not forget the sources of incentives as another critical dimension for description of these structures. Extraorganizational sources no doubt exert a very different kind and degree of influence from internal sources, as we have seen amply demonstrated by the way in which internal reward structures neutralize, or even reverse, those putative rewards offered by the RDD&D system. And cosmopolitan incentives might conflict with local structures of opportunity.

Still another important parameter of incentive structures is the abundance or scarcity of various rewards. Perhaps the most clearly limited are material benefits. If certain teachers are paid more for KU behavior, for example, others will have to be paid less for traditional behavior, unless of course outside resources are tapped. Other values that are limited are power and social recognition, although their availability is not as clear-cut as that of money. But there is sufficient scarcity of these goods to raise serious problems when KU efforts alter the existing distribution of prestige and power so that some gain at the expense of others. There is only one kind of reward that can be rendered for KU without reducing the pool: performance rewards. Thus, incentives that consist of greater opportunity for application of skills, value expression, enlightenment, improved performance, and so on, are almost infinitely

expansible, providing that such opportunities do not entail some kind of cost for the system. Unfortunately, the influence of such opportunities depends on certain predispositions to value these aspects of role performance. And thus we arrive at a final, major dimension for describing incentive structures of particular settings: the orientations of school personnel.

The formulation of orientation types are often partly based on preferences for particular benefits, and hence represent incentive types. For example, in a factor analysis of responses to a list of reasons for becoming a teacher, Ashley, et al (1970) found three clear-cut role orientations which they labelled Worker (material benefits), Educator (idealism), and Person (pupil-centered). And Ziegler (1966) divided teachers into the sanction-prone and the sanction-fearless with respect to community pressures, a distinction that reflects an orientation to occupational penalties (negative incentives). Neither of these studies was concerned with KU, however; and it is possible to formulate types of orientation that are not based on the perception of particular benefits or costs. These types can be divided into (1) personality patterns and (2) patterns of external foci.

With respect to personality features, Hawley (1976:7) for example characterizes "adaptive" teachers as intelligent, flexible, tolerant of ambiguity, etc. And no doubt there have been many studies devoted to the personality patterns of educators. Patterns of external foci include cosmopolitanism vs localism, person vs task orientation, humanism vs custodialism, and so on. Sieber and Wilder (1967) identified four types

of orientation to the teaching role according to high or low emphasis on subject matter, on the one hand, and either adult- or child-centered, on the other. The four types were called content-oriented, control-oriented, discovery-oriented, and sympathy-oriented.* But no effort was made to relate these teaching orientations to valued occupational rewards or to KU. And indeed, with the exception of cosmopolitanism, none of the orientation types mentioned thus far have been studied in relation to KU.

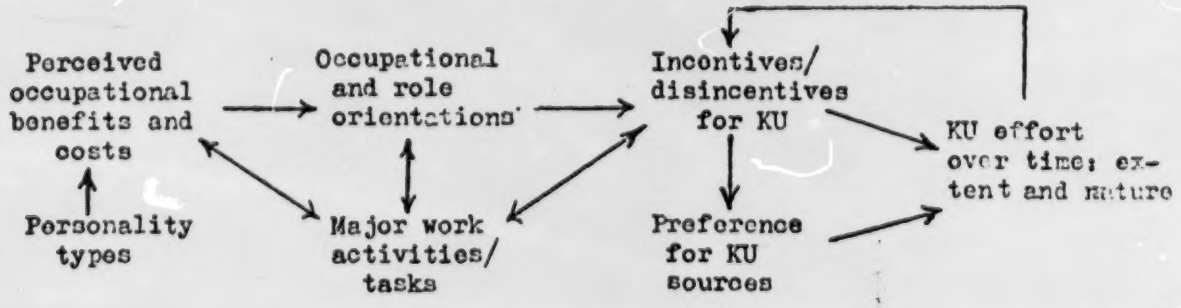
In their exploratory study covering a broad range of personnel involved in education, Hood and Blackwell (1976:III-7-11) identified types of "reasons" for seeking information by a factor analysis of responses to a checklist. This checklist did not concentrate on incentives for role performance, but instead was mainly concerned with discrete activities. The factor analysis therefore yielded activity types rather than incentive types (e.g., "policy-making" reasons, "teaching and competence maintenance" reasons, etc.). But this approach does remind us that the major activities and tasks of educational personnel may generate incentives for KU independently of occupational orientations.

Hood and Blackwell also factor analysed ratings of ease/difficulty in using different sources of information and found six factors (use of personal sources, use of formal print sources, use of agencies, etc.). But these types, which may be regarded as preferences for KU sources based on "ease" of use, were not studied in relation to incentives for KU. However, certain "purposes" for use of information were studied in relation to these sources by means of canonical analysis, which yielded five

* For an even more elaborate typology, one which is based on dimensions of legitimacy, see Spady (1974). For a role typology of local administrators, see Kester and Hull (1973).

purpose-source types: the print-prone formal source educational practitioner, the information-prone educator, the informal source using policy maker, and so on. Unfortunately, the small sample included personnel in higher education, SEA staff, school board members, and others. It is therefore impossible to say to what extent these types are found within local educational settings. Moreover, while some of the "purposes" for KU listed by Wood and Blackwell may be regarded as incentives, these are restricted to a small range of performance-related incentives that center on problem-solving and enlightenment.

In sum, a good deal of attention has been paid to personality, occupational, and role orientations of educators, but with the exception of cosmopolitanism these have not been examined in relation to actual KU. And while there has been some analysis of KU orientations in terms of "purposes" and preferred sources, these efforts have not been informed by an incentive paradigm nor related to more basic kinds of personality, occupational, or role orientations. Thus, an integrated schema for guiding research on the <u>orientational domain</u> of local incentive systems might look something like this:


Perceived occupational benefits and costs
Occupational and role orientations
Incentives/ disincentives for KU
KU effort over time: extent and nature
Personality types
Major work activities/ tasks
Preference for KU sources

A feedback loop was added to indicate the influence of KU experience over time on the perception of different benefits for KU. As Hall (1974) has noted, the concerns of users shift over the successive stages of a KU effort. These shifts in concern no doubt entail shifts in incentives/disincentives for successive KU activities. Thus, personnel involved in a change effort might revise their perceptions of benefits and costs as time goes by.

It should be emphasized that this schema is not intended to cover the whole spectrum of variables pertaining to the study of local incentive systems, but only those that are comprised in the orientational domain. Thus, I have omitted such independent variables as group norms, organizational characteristics, community characteristics, professional socialization, and so forth. I have included major work activities or tasks, however, because of their conceptual proximity to occupational orientations, and because they also serve as a dependent variable in relation to KU incentive/disincentives.

Some Speculations

To convey some sense of the reality of a concrete incentive system, it might be helpful to speculate about a model for KU that combines a number of optimal features. Since these features may vary independently, one can envision a range of models depending upon the number and types of features that are present. It should be noted that these propositions pertain to the internal incentive structures of schools. Contextual forces could interfere with or enhance these internal features.

The greatest amount of KU can be expected to occur in schools with the following features:

(1) a cosmopolitan orientation, a grasp of the conceptual underpinnings of particular KU efforts, an opportunity to examine a range of plausible options, and role orientations founded on expectations of performance-related rewards for client oriented behavior (and anchored in "adaptive" personality patterns);

(2) a perception of rewards for individual role performance stemming from both colleagues and administrators, together with a guarantee of basic system rewards for role incumbency;

(3) a relatively flat hierarchy which is determined mainly by informal recognition by colleagues, and with formal rewards from administrators congruent with collegial standing;

(4) a good deal of task/role autonomy among the faculty as a group with voluntary participation in decision-making;

(5) a principal who is both a symbolic leader and a provider of organizational means for KU activity, and who has decision-making authority granted by the central administration;

(6) visibility of performance and communication among colleagues that is both affective and task-relevant, and buttressed by an active "occupational community";

(7) consistency in application of criteria for allocating rewards;

(8) compensation for unavoidable deprivation of customary sources of gratification, e.g., role efficiency, imposed by a KU effort.

If the distance between faculty and administrative status rewards were reduced and faculty promoted to principalships on the basis of collegial recognition for KU success, then careerism would be discouraged, principals would behave as <u>primus inter pares</u>, and a system of personnel rotation would become feasible. While an abundance of formal, material benefits would facilitate the giving of rewards for KU without detriment to others, an emphasis on informal recognition by colleagues for role

performance and provision of opportunities for such performance (i.e., opportunities for application of skills, for task-environmental feedback, for problem-solving, etc.) can operate without a notable increase in material benefits. Indeed, such benefits should be kept to the minimum because of their tendency to undermine the pursuit of "intrinsic" rewards and to foster competition and resentment.

The combination of these features of an incentive system projects the image of a school that is socially integrated, goal oriented, adaptive to new opportunities, and motivated to contribute to the welfare of clients and the health of the organization —in short, a school that fulfills the classical "functional needs" of social systems in optimal fashion.

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